AN EXAMINATION OF FACTORS CONTRIBUTING TO CRITICAL THINKING AND STUDENT INTEREST IN AN ON-LINE COLLEGE-LEVEL ART CRITICISM COURSE

Glenell McKinnon Beach, B.A., M.A. Ed.

Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

August 2007

APPROVED:

Connie L. Newton, Major Professor
Christina B. Bain, Committee Member
D. Jack Davis, Committee Member
K. Donahue-Wallace, Chair of the Divison of Art Education and Art History
Robert Milnes, Dean of the School of Visual Arts
Sandra L. Terrell, Dean of the Robert B. Toulouse School of Graduate Studies

Beach, Glenell McKinnon, An Examination of Factors Contributing to Critical Thinking and Student Interest in an On-line College-level Art Criticism Course. Doctor of Philosophy (Art Education), August 2007, 253 pp., 9 tables, bibliography, 182 titles.

This qualitative case study research examined how constructivist problem-based learning facilitated higher level thinking, increased interest in art, and affected attitude toward on-line courses in an undergraduate philosophical aesthetics and interpretation of art criticism course. The research conducted for this study suggests that constructivist problem-based learning does facilitate higher level thinking and increases student interest in art and in on-line classes.

Active learning assignments, along with the constructivist collaborative class atmosphere, encouraged students to think more deeply about their personal values concerning art and to consider alternative views. Problem-based learning in this class acted as a scaffold to aid in understanding the material and then in applying the material to unique and real-life situations. Each subject came to the course with certain thinking skills and left with increased knowledge about art but also with increased critical thinking skills for critically examining and discussing art. Participants completed the course with more confidence in their critical thinking ability and in dealing with visual art images.

Data was gathered from seven study participants in the form of highly-structured interviews, an early and final critical writing analysis, a major problem assignment and its reflection journal, a beginning survey, and two final surveys. The final major problem involved an individual proposal followed by a collaborative group proposal. Group collaboration constituted the most frustration and problem within the constructivist design of the class. This research took a relativistic viewpoint in gathering data and interpreting meaning.

ACKNOWLEDGEMENTS

This dissertation would not have been possible without the contributions, support, and love of my family, my friends, my instructors, and my colleagues. I extend a special thank you to my committee members: D. Jack Davis for his expert advice and wisdom; Christina Bain for her encouragement, energy, and support in providing conscientious editing and insightful suggestions; and to my major professor, Connie Newton, I owe a special debt of gratitude. Her quiet and gentle spirit provided encouragement while her counsel and practical assistance enabled me to succeed. I also extended thanks to my colleagues and students who cheered me on. With much gratitude, I thank the participants who agreed to be part of this case study. The experiences, thoughts, and feelings they shared will remain vivid in my memory. To my colleague and supporting friend, Michael Miles, I also extend my gratitude. Finally and deeply, I thank my husband Chuck, who encouraged and solaced me, did laundry and housework, made meals, never complained, and continued to love me when I was unlovable. My heartfelt gratitude goes to our daughters, Traci and Amy, who believed in me and supported me from start to finish by listening to my complaints, drying my tears, and helping to cheer me when I was down. Likewise, I am ever grateful to my parents, Inez and Howard McKinnon, who always made me feel loved and provided models of courage and stamina in their own lives, and to my sister, Jannie Bell, for loving me, believing in me, and for repeatedly proofreading for me.

TABLE OF CONTENTS

Page

ACKNOWLEDGMENTS iii

LIST OF FIGURES vii

Chapter

1. INTRODUCTION 1

Theoretical Framework 4

Need for the Study 7

Purpose of the Study 9

Statement of the Problem and Supporting Background 11

Research Questions 13

Limitations of the Study 13

Definition of Terms 14

2. LITERATURE REVIEW 17

Learning in Aesthetics and Criticism 18

History of Aesthetics and Criticism 20

Kinds of Learning 23

Learning and College-Age Students 26

Learning Theories: Historical Overview 30

Constructivism 40

Cognitive Constructivism (Piagetian) 42

Sociocultural Constructivism (Vygotskian) 44

Cognitive and Sociocultural Constructivism 47

Collaborative and Constructivism 50

Problem-based Learning Approach and Constructivism 52

Problem-based Learning and Collaboration 56

On-line Learning 57

Review of Related Studies & Literature 60

Research Studies: Aesthetics and Criticism and Related Art Learning 60

Research Studies: Learning in Constructivist Ways 66

Research Studies: Web Courses/Technology 70
Research Studies: Student Attitudes and Learning 74

3. METHODOLOGY 78
Research Design 79
Case Study Research Methodology 81
Sources of Data 83
Methods of Data Collection 85
Interviews 87
Outside Class Communication, Surveys & Reflection Journals 88
Researcher Observations and Thoughts 89
Methods of Data Analysis 89

4. RESULTS AND DISCUSSION 94
Beginning Survey Results 95
MPA Reflection Journals 96
Research Question 1 98
Applying Intellectual Standards to Thinking 98
Critical Thinking Analysis Results 104
Critical Thinking and Critical Analysis of Artwork 112
Participants' Perspectives of Their Critical Thinking 115
Learning in Meaningful Ways 115
Peers as Teachers 117
Research Question 2 117
Increased Interest in Art Content 118
Constructivist Strategies and Increased Responsibility 120
Increased Confidence and Appreciation 120
Broadened Viewpoint and Increased Awareness 121
Research Question 3 122
Sense of Community 124
Advantages and Disadvantages of On-line Classes 125
The Constructivist Environment and On-line Classes 127

5. SUMMARY, CONCLUSIONS, & RECOMMENDATIONS 131
Constructivist Course Design 132
Problem-based Art: Challenges and Learning 133
Problem-based Learning & Time Constraints 136
Journals to Organize and Promote Critical Thinking 136
Question 1: Problem-based Learning & Critical Thinking 137
Higher Order Critical Thinking 139
Aesthetic Stance and Interpretation of Images 140
Facilitation 142
Collaboration 143
The Social Dimension of Learning 145
Question 2: Interest in Art 148
Question 3: Constructivist On-line Classes 150
Conclusions 152
Recommendations for Constructivist Strategies 153
Recommendations for On-line Courses 154
Implications for Future Research 155
ENDNOTES 158
APPENDICES 159
BIBLIOGRAPHY 241

LIST OF FIGURES

Page

1. Research Questions, Data Collection & Analysis Methods 78

2. Demographic Profile of Participants 84

3. Data Collection Tools 86

4. Critical Thinking Attributes Rubric 106

5. Critical Thinking Analysis by Participant & Data Source 108

6. Critical Thinking Assessment Tool, Participant Example; Use of Paul & Elder's (2006) Standards, Elements & Intellectual Traits 109

7. Composite Ratings of Participants' Critical Thinking 111

8. Final Art Survey Results 119

9. Attitude Towards On-line Classes 124

CHAPTER 1

INTRODUCTION

Universities are experiencing an explosive growth in courses delivered via the World-Wide Web. In order to compete for students, administrators in higher education ask faculty to develop and/or teach courses on-line at an increasing rate. A simple Internet search of distance learning within universities and colleges reveals that more and more institutions are incorporating on-line classes as part of their regular offerings in every subject discipline. Changing to an on-line course delivery environment creates the need to form policy and administrative structure to insure course design (learning environment) and instruction in on-line classes at least equals the quality of face-to face (FTF) classes.

Illustrating the explosive growth of college on-line class offerings, Summerville (July/Aug. 2002) states that in 1994, Peterson's Guide listed only 93 schools that delivered instruction via the Web. According to the National Center for Educational Statistics (Waits & Lewis, April 22, 2004), 52% of institutions offering undergraduate programs offered credit-granting distance education courses at the undergraduate level and 55% at the undergraduate or graduate level, ten years later. In the academic year 1994-95, an estimated 25,730 distance education courses were offered by 2-year and 4-year institutions of higher education. By the 1997-98 academic year, the number of distance education courses had nearly doubled to 47,540 courses (Lewis, Farris, Snow, Levin, 1999). In the National Center for Educational Statistics 2000-2001 survey (Waits & Lewis, April 22, 2004), the number of distance education courses was estimated at 3,077,000, demonstrating phenomenal growth. In the same 2000-2001 survey, 56% of all 2-year and 4-year Title IV-eligible, degree-granting institutions offered distance education courses for a variety of audiences (Waits & Lewis, April 22, 2004). Clearly, these

survey data would suggest the need for research related to all aspects of on-line learning and Web-based courses. Concerning the explosion of higher education Web-based courses, Bates (2000) sums up administrative issues saying, "Large investment in technology-based teaching can be justified only if it leads to significant changes in the ways we teach" (p. 119).

These technological changes for undergraduate instruction using Web-based instruction undergraduate demand a change in the paradigm of college instructors and course designers. On-line instruction calls for a shift to viewing the instructor as a facilitator rather than a lecturer, which in turn calls for a theoretical change in the roles of both teacher and learner and a turn toward the model of a constructivist learning environment in Web-based courses. For more than four decades, various degrees of behaviorism have resided in theories of cognitive learning and have dominated instructional theory and curriculum in a back-to-basics and structure-of-the-disciplines atmosphere. Behaviorist traditions dominated the psychology of learning until the 1960s and the emergence of the cognitive psychological theories of Dewey, Kant, Bruner, Gagné, and semiotic theory. Behaviorist traditions as well as cognitive psychology have all influenced views of learning. Constructivism stands in contrast to the more deeply rooted traditional ways of teaching that have typified American classrooms and suggests radically different approaches to instruction. Constructivist roots lie in the learning theories of Dewey, Piaget's theory of cognitive constructivism and Vygotsky's sociocultural constructivism.

As universities increase Web-based courses, political pressure on education increasingly pushes for accountability within accrediting agencies, which can be most easily measured through objective testing rather than a learner-centered atmosphere in which students construct knowledge in authentic real-world learning experiences. Also with the onset of Web-based on-line instruction, professors in higher education are increasingly pressed to design on-line courses.

Because on-line courses involve a physical separation from the professor and engage with information in different time periods (asynchronous interaction), new strategies and techniques are required to facilitate meaningful learning for students. Traditionally, learning was thought to be a mimetic activity in which students repeat newly presented information and their knowledge was assessed in tests or quizzes. Often in the traditional classroom, the predominant model is direct instruction, in which the teacher's central role is to transmit knowledge to learners and the student's role is to absorb the information. Within the structure of learning outcomes, it is important that course designers and instructors include higher order learning opportunities for their students. Inclusion of constructivist strategies provides rich opportunities for higher order learning in undergraduate classrooms.

As institutions of higher education increasingly make use of Web-based instruction, art educators are not immune to changes in methods of delivery from the traditional classroom to the on-line classroom. Although some art courses may not be good candidates for total on-line instruction, integration of face-to-face (FTF) instruction with Web-based activities (hybrid classes) has the possibility of richer learning experiences for these types of classes. On the other hand, the content of art courses such as art appreciation, art history, and aesthetics and criticism offers rich opportunities for conversion to Web-based instruction. However, instructors utilizing on-line instruction/learning must experience a paradigm shift towards viewing the teacher as a facilitator rather than a lecturer.

Changing from the synchronous (interacting at the same time) teaching and learning found in the traditional classroom requires art teachers and students to rethink the educational process from the perspective of the asynchronous virtual learning environment. In rethinking this process, art educators can create opportunities for learning in courses such as aesthetics and

criticism. Art aesthetics and criticism content is a rich field for constructivist pedagogy as well as opportunities for active learning and problem-solving situations in which students delve more deeply into critically thinking about visual images.

Some faculty, having never taught on-line, seek training or professional development in on-line course design and implementation; others work from fragmentary information, attempting to teach using the same strategies of the traditional lecture classroom. Universities, in turn, are developing policy guidelines and structure for creation and teaching of Web-based courses. Palloff & Pratt (2001) point out:

> Using technology to replicate the traditional face-to-face classrooms on-line is a waste of time, energy, and money. Technology is and should be used as a vehicle to assist institutions and their faculties in reaching students who might not otherwise be reached because of distance or learning style. It is also a vehicle to assist instructors in achieving learning objectives in new ways. (p. 47-48)

Web technology has expanded exponentially. Textbook companies now provide texts and lecture materials on Websites with chat rooms and grade books; organizations have emerged that focus solely on development of courses while others, such as WebCT® and Blackboard®, provide e-learning course delivery systems. These courses are open for instructor design and available only to enrolled students. Issues such as course ownership, intellectual property, copyright, and faculty control over the academic process also enter the on-line arena (Palloff & Pratt, 2001).

Theoretical Framework

The view the researcher takes of the world affects the entire research process. Bogdan & Biklen (1998) define a theoretical perspective as a way of viewing the world that includes assumptions about what is important and what makes the world work. A visual illustration of the

theoretical framework of research could be compared to the scaffolding framework in architecture that supports the entire structure. The framework of this study draws on the concepts, terms, definitions, models, and theories of art education and comes from the researcher's direct teaching experience, interests in practice, and growing scholarly interests. These things, in turn, affected the research questions constructed, the roles taken by the researcher, and the way the study was written (Barone & Eisner, 1988; Bresler, 2006; Marshall & Rossman, 1999; Patton, 1990).

The framework for this research encompasses the following four areas: First, the research was framed through the educational discipline of the researcher, who is an art educator; second, the research was framed through the lens of constructivist learning theory and pedagogy; third, semiotic interactionism framed the process of finding answers to the study's research questions; and fourth, qualitative research methods framed the process of gathering, analyzing, and interpreting data.

The first area of the theoretical framework, the discipline of visual art and the literature of art education, was foundational to the research and to the development of the questions to be answered in this research study. Bresler (2006) suggests that "artistic processes can illuminate significant aspects of qualitative research and that aesthetics is at the heart of both artistic experience and qualitative research," and that the arts provide "rich and powerful models for perception, conceptualization, and engagement for both makers and viewers" (p. 52). The aesthetic philosophy for the present research reflects the viewpoint of an artist, an art educator, and a student. Bresler's previous statement reflects the philosophical beliefs about the art discipline influencing this research study and the lens through which this research was conceived.

This study specifically focused on the philosophical aesthetics and criticism of art, which provided excellent opportunities for engagement with artworks that have the potential to expand the way students view art and understand their culture and world. In addition, the discipline and educative framework of this study incorporates Efland's ideas concerning learning in the arts through a lattice-structured curriculum. Because concepts vary in meaning from one application to the next in the arts, and especially in aesthetics and criticism, this lattice-structure exposes students to a greater number of overlapping and interconnected ideas.

Facilitating transfer through critical inquiry and examination of individual, social, and cultural values was part of the constructivist strategy investigated in this research, and the research questions for this study arose from teaching experiences in aesthetics and criticism as well as scholarly interests in constructivist-based learning. The writings of John Dewey and psychological constructivist theories arising from the works of Piaget and Vygotsky as well as educational cognitive learning theory of Bruner provided the foundational framework of the study. Assumptions within the constructivist paradigm are that learning occurs through active engagement with information, tasks, and skills that cause the learner to make changes in the existing patterns or schemas in their minds in order to accommodate new information. In other words, students acquire cognitive, affective, and kinesthetic knowledge through active experience. This process occurs both individually and within a socio-cultural context.

Also underpinning the framework of this research is symbolic interactionism, a theory for observing and interpreting ways that individuals and groups construct knowledge. Meaning is handled in and modified through interpreting what is encountered in the social setting. Symbolic interactionism emphasizes the individual's sense-making processes and social processes without giving primacy to either one (Yackel, 2001). Symbolic interactionism was utilized in this study

through development of instructor-to-student and student-to-student relationships in the social setting of an on-line college classroom. Within this social atmosphere and these relationships, this study analyzed participants' written and oral communications in order to interpret how they used critical thinking skills to complete problem-solving assignments in art aesthetics and criticism. Semiotic interactionism also defined the process used in interpreting what students said and did that indicated an increased interest in art or a change in attitude toward on-line learning.

Because of the nature of the framework and research questions, a qualitative interpretive and instrumental case-study approach provided the best method of research. This study sought answers framed specifically within three research questions. Qualitative study within this framework provided an important way of understanding unique individuals, while hopefully providing broader insights for instructors of other students and other disciplines. Contextualized, expressive, and vernacular language was utilized to achieve two objectives: (a) to reconstruct the participants' perspectives; and (b) to motivate the reader to reconstruct the participants' perspective within themselves (Barone & Eisner, 1988). This research assumes that constructivist learning strategies encourage higher order thinking; that on-line learning can be as effective as face-to-face (FTF) learning; and that a philosophical aesthetics and criticism class is a good course in which to study this phenomenon.

Need for the Study

Eisner (2002) discussed an agenda for research in art education in the final chapter of his book, *The Arts and the Creation of Mind*. He stated a primary need for studies in teaching and learning, meaning studies that try carefully to answer questions such as:

> What do teachers of the arts do when they teach and what are its consequences? What kind of curriculum activities do teachers ask students to engage in? To what content are those activities related? What forms of thinking do they evoke? How do they introduce what they want their students to learn? What kinds of comments do they make to their students as they view their work? What kind of scaffolding do they provide? (p. 215)

Over the last 15 to 20 years, studies involving different issues of on-line learning have steadily increased. In comparison to other subject disciplines, studies of on-line courses in art education have been much fewer. Research in the field of art education needs to recognize that the World-Wide Web and virtual classes are a viable part of the tapestry of education. Admittedly, an art studio course such as painting or sculpture, involving hands-on creation, may be difficult to effectively teach on-line. Though technique demonstrations could be handled via video lessons, problems concerning submission and return of actual art, artist authorship, and student access to art equipment all pose obstacles to offering this type of course on-line. When designed appropriately, more textual and/or discussion-based art courses, such as the one used in this study, present good candidates for consideration as on-line offerings. Studies such as this research are needed to add to existing research that can expand or alter art education practices and strategies in art and other disciplines, as well as consider contexts in which on-line course technology could enhance learning.

Additionally, although aesthetic and critical methodology and pedagogy are numerous in art education literature, few research studies on critical thinking and learning focus on the content of art aesthetics and criticism. Very little research has been directed toward learning in art classes at the college level. The course content area of art aesthetics and criticism for this study provided an opportunity to obtain college students' perspectives about a body of information that has no clear black-and-white answers but requires a negotiated meaning obtained through dialogic inquiry, which is at the heart of higher order thinking. This is

particularly important because in today's world, knowledge and information continue to expand in a global community with problems that do not have black-and-white answers and increasingly require critical thinking and inquiry.

As the global community expands, on-line classrooms offer growth opportunities for individuals to interact with others of differing opinions and socio-cultural background as well as to take more responsibility in their own learning. In this research, the on-line characteristics of this course added the dimension of greater personal responsibility of each student to regulate and actively participate in course content. An examination of students' metacognition and how they processed and acquired knowledge has potential to add to effective teaching methods and strategies in both the traditional classroom and in the on-line class. In addition to the on-line facet of this study, the constructivist investigation adds to the already existing studies of the effectiveness and limitations of the constructivist art learning environment from a student point-of-view.

Purpose of the Study

The purpose of this study was to determine how a collaborative problem-based constructivist learning environment could facilitate higher level thinking required in an on-line college level philosophical aesthetics and interpretation in art criticism course. The study also investigated how a constructivist facilitative teaching approach with student-to-student collaborative problem-based learning contributed to student interest in art and on-line learning. In today's world, students must possess not only knowledge but thinking skills to apply what they know. Constructivist ideology aims toward the goal of aiding students to become reflective

problem-solvers. As educators gain a better understanding of how students process and assimilate information, they can better facilitate and individualize learning for students.

This research study was conducted in an art course titled Issues in Aesthetics and Criticism, taught in the fall semester of 2006 at a regional state university. The course was comprised of 16 undergraduate students from various majors, including art majors. Students' previous exposure to art content varied from very little to upper-class level art majors who had taken studio and art history courses. The case study group was selected at mid-term from enrolled students. Selection was based on students' dedication and regular participation in assigned activities, their grade-point average (GPA), and a minimum completion of 50 undergraduate credit hours.

Because the nature of on-line courses required students to take more responsibility for learning, the Web interface was a good opportunity for implementation of constructivist strategies. The instructor was automatically in a position to facilitate rather than deliver instruction and facts. In addition, the domain of art and specifically aesthetics and criticism involved a more abstract content and offered a curricular atmosphere conducive to problem-solving, presentation, and research.

The case study used purposeful sampling to select seven class members as case study subjects to interview for a closer understanding of how students interacted and processed information and how they functioned in the on-line environment (see Appendix F). Attempting to understand how students comprehended abstract thoughts and theories involved a problem-based approach that was a rich environment for a case study.

Statement of the Problem and Supporting Background

In order to determine answers to the research questions, a qualitative case study method provided the most logical research method to describe, analyze, and evaluate the effectiveness of a constructivist and problem-based learning atmosphere in a college-level aesthetics and criticism in art course. Specifically the research sought to find if problem-based assignments facilitated higher order thinking skills and increased students' interest in art and on-line learning. Over the past six years of teaching this aesthetics and criticism of art course on-line, the instructor improved assignments and sought ways to apply constructivist theory and to encourage student learning and appreciation of the course content. This course seemed the ideal avenue in which to research how learning through problem-solving could facilitate critical, higher order thinking in distance learning. This study also presented an opportunity to find out how students responded and conceived of their own learning in art, which informed art teaching strategies and methods of on-line facilitation.

Online learning through the World-Wide Web and ease of access to the Internet continue to make a substantial impact upon the way students are taught and the ways that they learn. The information age and knowledge explosion resulting from technological advancement continually expands and affects the delivery mode of post secondary education in general and art education in particular. This current research purposed to add to the knowledge base of how to keep pace with on-line classroom technology while providing rich learning opportunities for students in art classes.

In regard to on-line classes over the last decade, numerous studies using grade distributions to determine learning outcomes show that students do as well through distance (on-line) learning as they do in FTF classes (Motiwalla & Tello 2000; Souder 1993). Verduin and

Clark (1991) reviewed 56 studies comparing academic achievement of students in conventional classrooms to students in a variety of distance learning programs and found that students using "distance education methods achieve similar, if not superior results when compared with conventional methods of teaching" (p. 213). Similarly, Arbaugh (2000) reported no significant outcome differences in MBA students taking Web-based courses versus traditional courses on campus. Other studies have found that on-line learners performed on assessments equal or better than FTF students (Clark, 1999; Dobrin, 1999; Navarro & Shoemaker 1999; Neuhauser, 2002; Trinkle 1999). Halsne (2002), in comparing 14 community college classes offered on-line and FTF simultaneously, found that the majority of on-line students were aged 26 or older, while the majority of traditional (FTF) students were under age 26. Similarly, Harbeck (2001) estimated from a literature review of several studies that the average on-line or distance learning student is older than the traditional 18-21 year old taking FTF classes. Because students must take more responsibility for their own learning in an on-line class, these findings may imply that equal or better performance is due to on-line students possessing more maturity than traditional students taking a FTF course on campus.

Although much has been published about distance education from the designer's, administrator's and instructors' points-of-view, little has been written about the student perspective of distance education (Hara & Kling, 2000; Miller & Husmann, 1994; Roblyer, 1999; Schlosser & Anderson, 1994). Harbeck (2001) found in her research of college students' points-of-view that one factor not "mentioned in the literature is that some students choose to take a course on-line if they are not interested in the content of the class" (p. ii). A review of literature reveals a clear need for more information about on-line classes and learning from the student perspective.

Research Questions

This research investigated how a constructivist approach incorporating collaboration and facilitation of critical thinking affected students' experiences and interest in on-line learning and in art criticism and aesthetics. Using data collected from students enrolled in a course employing a collaborative and individual problem-based approach for content acquisition and course interaction, this study focused upon the following research questions:

1. How can constructivist problem-based learning facilitate the higher level thinking required in philosophical aesthetics and interpretation in art criticism in an on-line undergraduate course?
2. How does a constructivist teaching approach using problem-based activities contribute to an increased interest in art content with undergraduates enrolled in an on-line art aesthetics and criticism course?
3. How does a constructivist teaching approach and problem-based activities affect attitude toward on-line learning in an art aesthetics and criticism course?

Limitations of the Study

One limitation to any qualitative case study is that it can oversimplify or exaggerate a situation, leading a reader to erroneous conclusions that single scenarios are accounts of the whole state of affairs. Case studies also can be limited by the sensitivity and integrity of the researcher who is the primary instrument of data collection and analysis of data and is also responsible for ethical research practice (Merriam, 1998). Also, notwithstanding that the researcher makes every attempt to be objective and sensitive, researcher and participant subjectivity and bias are also limiting factors. These types of limitation threaten validity of the researcher's interpretation; however, this limitation can be countered by data source triangulation, checking to see if the case remains the same at other times, in other spaces, or as persons interact differently (Stake, 1995). This study drew participants from a group in which

students self-selected as class members by their enrollment in the course. The student population at the university from which participants were selected was predominantly Caucasian with a number of minority Native American students and other minority students. The majority of students come from low-to middle class income brackets. The participant population of this study may not be representative of the entire American undergraduate population. Due to this limitation, generalizability is not possible. Also, according to Wolcott (1990), participant answers and actions in a case study are not necessarily replicable; therefore reliability is affected.

Although there are positive elements when the case study researcher is also the instructor of the study population, a potential limitation exists in the power structure of the course in which the instructor assesses grades. For example, when agreeing to be part of the study or even answering interview questions, students may think that in agreeing or answering favorably, the instructor will be influenced to give a higher grade on assignments or in the final course grade.

Definition of Terms

Definitions of terms specific to this study are defined as follows:

Accommodation: a term used by Piaget to describe a result of the effects or pressures of the environment following assimilation resulting in a change of one's self and an explanation of an object/event in order to function with cognitive equilibrium (Fosnot, 1996).

Assimilation: a term used by Piaget to describe the attempt of individuals to organize one's experience with one's own understanding in which one views the world through one's own constructs, attempting to reconstitute previous behaviors (Fosnot, 1996).

Asynchronous: a state of not occurring, meeting, or sharing at the same time

Authentic learning, active learning, and experiential learning: real-world learning situations that challenge students to problem-solve, sometimes collaborate, discuss and debate (critical discourse), draw conclusions, identify value judgments, and negotiate meaning through dialogic inquiry

Behaviorism: a psychological learning theory concentrated on environment of the individual rather than internal cognitive processes and based on the proposition that behavior can be studied and explained scientifically

Cognition: referring to the numerous capabilities of the human mind and abstract concepts such as the mind, reasoning, perception, intelligence, or learning

Constructivism: a theory that describes knowledge and learning as temporary, developmental, nonobjective, internally constructed, socially and culturally mediated, and self-regulatory through construction of new knowledge by incorporating new information into existing personal models

Dialectical: intellectual investigation using discussion and reasoning through dialogue

Distance education: a field of education that focuses on teaching and learning using technology and instructional systems that are delivered to students who are not physically in the classroom. Teachers and students communicate by exchanging printed or electronic media asynchronously or synchronously

Equilibrium: a term used by Piaget to describe a process of self-regulated behavior balancing two inherent polar behaviors, assimilation and accommodation

Facilitator: in education, an instructor or more experienced peer who functions as a guide, aiding another individual to experience or explore new concepts or information, rather than as a dispenser of facts, information, and solution

Hybrid class: a class that utilized face-to-face (FTF) instruction and also incorporates Web-based activities

On-line learning: utilizing the World-Wide Web in the form of open or closed networks for coursework delivery

Problem-based learning (PBL): a student-centered, self-directed, and active learning process in which students deal with problems as close to life as possible, guided by goals and facilitated by a tutor (teacher) to achieve understanding

Scaffolding: a term describing a process of learning visualized as a series of scaffolds or a kind of trellis in which an more capable peer or adult guides the learner in next steps before the learner is capable of appreciating their significance on his/her own

Spiral learning: learning that builds on previous learning and grows more complex

Synchronous: occurring, meeting, or sharing at the same time or real time

Thick description: a term from anthropology that means a complete, literal description of the events or entity being investigated

Virtual classroom: a synchronous on-line meeting occurring in real time

CHAPTER 2

LITERATURE REVIEW

Based on the theoretical framework discussed in Chapter 1, the following areas are discussed in the literature review: (a) learning in aesthetics and criticism, learning and college-age students, and learning theories; (b) constructivist theories; (c) problem-based learning and constructivism; (d) on-line learning; and (e) related studies and literature. Collection and interpretation of data were shaped by the cognitive constructivism of Piaget, the sociocultural constructivism of Vygotsky, and constructivist learning theories connected with of these philosophers. Constructivism incorporates experiential or active learning and spiral learning through scaffolding that allows for spatial and visual memory situations for incorporation of new information by the process Piaget called assimilation and accommodation. These basic conceptions of constructivism can be traced back to John Dewey, who rejected the notion that schools should focus on repetitive, rote memorization. Instead he proposed a method of directed living encouraging students to engage in real-world, practical workshops in which they would demonstrate their knowledge through creativity and collaboration. Constructivist strategies used by the teacher/facilitator of this course include questioning, problem-solving, cooperative and collaborative group activity, and self-evaluation through reflection.

Fosnot (1996) defined constructivism as a theory about knowledge and learning that describes both what knowing is and how one comes to know. It is a theory based on work in psychology, philosophy, and anthropology that describes knowledge as:

> temporary, developmental, nonobjective, internally constructed, and socially and culturally mediated. Learning from this perspective is viewed as a self-regulatory process of struggling with the conflict between existing personal models of the world and discrepant new insights, constructing new representations and models of reality as a human meaning-making venture with culturally developed tools and symbols, and further

> negotiating such meaning through cooperative social activity, discourse, and debate. (p. *ix*)

It is within the context of individual construction and social mediation that *meaningful* learning occurs. In other words, learning is assimilated into existing cognitive structures and accommodated for use in future thinking and problem-solving endeavors.

In like manner, Dewey (1927) contended that a school should be a microcosm in which students learn particular values, processes, and attitudes to live as effective citizens in a democratic society. The on-line classroom is just this type of microcosm within the larger system of universities continuing to expand in the area of distance Web-based course offerings. By its very nature, the on-line classroom can be conducive to a constructivist atmosphere of learning because so much more responsibility for learning falls upon students who must access the course for assignments and directions. In on-line collaborative assignments, because discussion comments are recorded, more individual accountability is placed upon each student, which, in turn, makes the course more learner-centered than it is teacher-centered. This type of structure lends itself well to a constructivist course design.

Learning in Aesthetics and Criticism

The study of aesthetics and criticism of art engages students in the abstract world of philosophy and opinion. In discussion of learning in the art domain, Efland (1995) promotes the theory of R. J. Spiro that some domains are better structured. Art is considered an ill-structured domain because concepts vary in meaning from one application to the next. Efland (1995) advocates a lattice-structured art curriculum rather than the previous spiral curriculum promoted by Jerome Bruner. The lattice-structure has the potential for exposing students to a greater number of overlapping and interconnected ideas and creates a greater likelihood for facilitating

transfer. Transfer occurs when two different concepts are seen to have common elements. In art, the overlapping elements could be ideas common to history and art history, criticism and aesthetics, social science and science, to name a few. Problem-solving and a constructivist atmosphere of learning are compatible with this lattice-structure and facilitation of transfer by overlapping of common ideas and discipline content. Active learning encourages students to seek connections and the field of aesthetics reaches into the discipline of art criticism. Both aesthetics and criticism coincide with art history and socio-political culture.

Likewise, Short (1995) adheres to Efland's idea of art as an ill-structured domain. She points out that experts in the areas of art criticism, art history, and studio production are aware of the importance of formal qualities and descriptive content to understanding works of art. Understanding can be deepened through investigation of historical, political, social, and cultural contexts. In critical evaluation (art criticism) of artworks, experts consider the following:

- Formal qualities and relationship of formal qualities to compositional structure
- Descriptive content
- Expressive feature and related symbolism
- Historical/cultural context and authorship
- Reasoned interpretation and/or judgment
- Aesthetic considerations
- Critical discourse (Short, 1995, pp. 156-57)

As part of the ill-structured discipline of art, the type of course content within aesthetics and criticism is not rigid and bound with black-and-white facts. By nature, artworks invite feelings, interpretation, value-laden judgments—all abstract and individual in content. Learning in art occurs when students use both affective and cognitive thinking and reasoning. Chanda and Daniel (2000) suggest a way of teaching that explores the link between historical and cultural content that they term *reCognizing*. This way of "recognizing refers to the act of cognitively

restructuring one's thinking, getting to know a previously known thing in new ways or an unknown thing, like a work of art, in multiple ways" (p. 8). Art concepts in aesthetics and criticism often overlap, and can result in over-simplification by the novice. However this process of aesthetic valuing and criticism involves use of higher order thinking (Stout, 1995). Findings in a qualitative study by Sullivan (1996) suggest that the complexity of contemporary art practice offers a rich range of models of art learning, which can be seen as a way for reconciling the cognitive character of artistic practice and postmodern interpretive stances found in art critical dialogue.

Criticism and aesthetics course content, offered in the on-line atmosphere, constitutes a problem that has not been studied in depth. This study adds to a growing body of research and study in general, to on-line learning research, and to art learning in particular.

History of Aesthetics and Criticism

Foundations of modernist aesthetics developed as part of the Enlightenment philosophical project founded on the Cartesian opposition of mind and matter and the ancient conflict between body and soul. Kant's (1788) *Three Critiques*, published in the late 18th century separated reason into three spheres of theoretical knowledge, practical reason, and aesthetic judgment. Although aesthetic judgment is directly dealt with in the third *Critique* this separation helped to establish the idea that aesthetic judgments were made outside of cognition. Postmodern philosophers argue that modernism limits the boundaries of discussion by claiming rationality, objectivity, and authority, promoting universality, and assuming progress. Kant's view conceived a disinterested aesthetic experience elevating people to a higher plane (Freedman, 2003).

Stankiewicz (1992) argues in her article "From the Aesthetic Movement to the Arts and Crafts Movement" that in addition to the work of Walter Smith promoting industrial drawing, the Aesthetic Movement and the Arts and Crafts Movement shaped nineteenth century styles and transmitted values. The Aesthetic Movement (ca. 1870-1895), first in England and then in the United States, was inspired by Ruskin and the Pre-Raphaelite Brotherhood. Members of this movement were those whose sensibilities and taste were educated and cultivated. They shared a vision of unity among the arts. Possession of the right objects indicated moral and spiritual superiority. Adherents of Ruskin and South Kensington style in England aided by Walter Smith's principles of good design contributed to the Aesthetic Movement in North America. Some Aesthetes (as they were called), following the lead of Ruskin, questioned machine-made objects and placed artistic values above ethical ones. They formed the core of the emerging Arts and Crafts Movement and pre-industrial production using guilds and small craft workshops. Examining late 19th and early 20th century educational textbooks reveals that elements of both aestheticism and the Arts and Crafts Movement coexisted in school art long after they ceased to function as the cutting edge in the larger art world. Stankiewicz argues that the aesthetic categories and cultural classifications left by these influences at the birth of modernism must be re-examined in a post-modern context. "Art educators need to question their taken-for-granted assumptions about art education and its history. We cannot assume that either/or categories provide the most effective explanatory frameworks for researchers or practitioners" (1992, pp. 171-72). Stout's (1999) argument supports foundational sources of naïve aesthetic values than can be observed today in students studying art aesthetics and criticism for the first time.

In addition, another strong influence upon thinking in art and in aesthetics and criticism resulted from the promotion of discipline-based art education by the J. Paul Getty Foundation in

the 1980s. Discipline-based art education encouraged teaching the elements and principles of art and design as aesthetic qualities, addressing the big questions of art and aesthetics and discussing the work of aestheticians and art critics as a professional field. From the 1990s to the present, greater emphasis on these topics can be seen in publication of writing and research on learning and teaching in art appreciation, aesthetics, and criticism (Chanda & Daniel, 2000; Chanda & Basinger, 2000; Bain, 2001; Efland, 1993; 1995; Eisner 1991, 2002; Erickson, 2005; Freedman & Wood 1999; Freedman, 2003; Greene, 1995; 2004; Lai, A. 2002; Short, 1995; Stout, 1995; 1999; Stankiewicz, 1992; Sullivan, 1996). Some of these publications specifically address teaching in aesthetics and criticism and discussions as to when and how aesthetic and criticism concepts should be introduced to children (Chanda & Basinger, 2000; Chanda & Daniel, 2000; Erickson, 2005; 2005a).

Looking to historical beginnings of criticism of art objects, discussion of the role of artists, and function of art dates back to Plato. All art history can be said to be critical in that historians choose certain works and artists to discuss. Art criticism was introduced into art education literature as a mode of inquiry to help students understand and appreciate art (Barkan, 1962; Munro, 1956). The criticism model for examining artworks developed by Feldman (1967; 1970) was one of the earliest and was broken down into linear steps of describing, analyzing, interpreting, and finally evaluating works of art. From the onset of this model numerous alternatives have been proposed. Geahigan (1998) discussed a 1990 article by Efland in which Efland stated that educators had gone wrong in looking to philosophical literature on art criticism for guidance to found models of criticism. Geahigan pointed out that no procedure can accurately represent what critics actually do. He discussed the process of critical inquiry for understanding works of art. Before a critic can evaluate a work of art, he/she must first

understand it; however because of the complexity of artworks, they can be understood and evaluated in different ways (Geahigan, 1998).

To the contrary, Barrett (2000) defines art criticism based on what critics do and say they do. Critics describe images and attempt to put their reaction of feeling, thinking, and understanding into words. They subjectively articulate the effects that the work of art induces in the viewer. Some critics define their job as one to describe, interpret, and evaluate art. Art criticism, although intertwined with art history, emerged also in discipline-based art education as a separate discipline and is closely tied with aesthetics, since any criticism reflects the values held by the critic. Critics work for viewers of art and those who want to think critically about the times and society in which we live. Like artists, they produce meanings, but use pages of magazines rather than canvas. These critics hold aesthetic and ethical values that they promote in their writing. Their goal is generally to increase readers' understanding and appreciation of the art, the political and intellectual milieu in which it is made, and its possible effects on the world (Barrett, 2000).

Kinds of Learning

Learning in aesthetics and criticism does not follow a prescriptive, step-by-step process. Critical inquiry and aesthetic valuing are shallow when examination of artwork is reduced to procedural steps. The thinking processes involved in this activity require knowledge and understanding and use of reflective thinking that allows for higher order thinking processes such as hypothesis, synthesis, and evaluation. The process of learning in aesthetics begins with the aesthetic experience. In regard to aesthetic experience Greene (1995) says,

> Aesthetic experiences require conscious participation in a work, a going out of energy, an ability to notice what is there to be noticed in the play, the poem, the quartet. Knowing

> about, even in the most formal academic manner, is entirely different from constituting a fictive world imaginatively and entering it perceptively, affectively, and cognitively. (p. 125)

Any engagement with a work of art must out of necessity involve perception. Broudy, (1972) describes aesthetic education and the process of perception as: "Aesthetic education is first of all the training of imaginative perception to enable the pupil to apprehend sensory content, formed into an image that expresses some feeling quality" (p. 57). Aesthetic perception requires a special kind of preoccupation with the work of art. This perception involves a break from passivity and involves the affective domain of the brain in a sensory investigation, an involvement of emotion, a loosing of imagination, an examination devoid of practical concerns. Dewey (1933) observed that "the aim of criticism is the re-education of perception" (p. 321) and the enemies of the aesthetic are "the humdrum; slackness of loose ends; submission to convention in practice and intellectual procedure" (p. 40).

The first task for the instructor/facilitator in aesthetic and critical engagement is to aid the student in improvement of perception and set conditions for aesthetic inquiry, which leads students to search deeper for meaning, for content, for artistic intent and possibly sociocultural importance. This inquiry involves active engagement and leads toward aesthetic and critical response and evaluation. Students must identify opinion versus fact, analyze what things to know, sort beliefs and assumption from what is factual and valid, and reason and evaluate to determine value. Reflection upon thinking clarifies their thinking process. Greene (2004) sums up this process

> however, art experiences, aesthetic experiences, are intrinsically valuable. . . they do not have to lead to further goods or measurable outcomes to be justified. Even so, it may not be too much to say that the wide-awakeness, the thoughtfulness, the sense of the unexpected associated with such experiences may be precisely what are needed to stimulate the kinds of reflective practice and reflective learning all of us hope to see. (p. 18)

Aesthetic and critical inquiry constitutes a rich content source for the constructivist viewpoint of the teacher as facilitator to encourage higher-order critical thinking through problem-based learning (PBL) opportunities. Works of art provide rich sources for reflective thinking and feeling while exploring aesthetic concepts and judgments. This reflective exploration has the potential for critical discourse for experiencing deeper levels of thinking, formation of critical evaluations, and expansion of students' knowledge and reasoning processes. This situation occurs when students make personal aesthetic responses to provocative works of art, encounter contrary opinions, compare related works of art, and research background of artworks they studied.

Geahigan (1998) discussed these ideas in relationship to problems in designing curricula for art criticism. In his article, Geahigan (1998) cited Efland's point that young children's cognitive development may preclude certain forms of inquiry, but he disagreed that the prescriptive procedures of writing or talking results in true inquiry. Critical inquiry in this sense cannot take place until viewers *find* themselves in a problematic situation and *recognize* that a problem exists in order to deliberate about it. Hypotheses about meaning and value must *suggest* themselves before students are able to test them by gathering evidence and examining the work of art—the act of critical inquiry. Geahigan (1998) very succinctly stated the kind of situation needed for authentic critical inquiry to take place:

> The real key to promoting critical reflection, as Dewey long ago pointed out, lies not so much in teaching students what to do (whether it be a procedure or a set of principles), but in *identifying and establishing* those conditions needed for critical reflection to occur. . . . Teachers must find ways to create the problematic situations that will promote genuine reflections about works of art, they must provide opportunities to acquire the background knowledge needed to recognize problems and formulate hypotheses about meaning and value, and they must provide opportunities for students to test and revise their hypotheses through interacting with works of art in the presence of other interested users. (p. 392)

Teachers in aesthetics and criticism influence what students learn. For example, the kind of art that a teacher selects to discuss draws on a specific theory of art, whether it is a canonized Western European aesthetic or a pluralistic multicultural aesthetic. If we expect students to have a substantive understanding of art and how it contributes to humanity, aesthetic philosophies must not remain implicit in a curriculum. Aesthetic content needs to be made explicit by highlighting philosophical issues or theories within a problem-based environment for learning. PBL can organize the curriculum and challenge students to think deeply about complex situations when it is applied as an authentic real-life application (Constantino, 2002).

The greatest challenge for teaching art aesthetics and criticism is in providing students opportunities to experience artworks and subsequently gain knowledge about artworks that challenged them to probe deeper and to overlap new information by induction and deduction. Stout (1999) witnessed deeper critical inquiry in an art appreciation course when she dedicated substantive time to primary sources rather than a general text overview. Students became more involved when they read actual writings by the artist of a particular work. When students can be personally motivated to probe deeper, the potential to improve their problem-solving skills increases—specifically their ability to hypothesize and test information for reasonable conclusions and deductions. Because there are no absolute answers, the ill-structured domain of art is a rich discipline for increasing learning about one's values as well as opposing values, about different ways of thinking, about visual iconography and communication, and about enrichment of life through awareness of what a society produces and values.

Learning and College-Age Students

In her article, "Innovative Higher Education," Cross (1999) said that over the past few

years, there has been a flood of articles, books, and conference themes entreating colleges and universities to make student learning their top priority. She identified at least two large books over the past 40 years that reviewed thousands of research studies about college students (Feldman & Newcomb, 1969; Pascarella and Terenzini, 1991). A number of recent research studies have explored learning styles or personality in regard to academic achievement in undergraduate learning (Daughenbaugh, Ensminger, Frederick, & Surry, 2004; Cano-Garcia & Hughes, 2000; Harris, Dwyer and Leeming, 2003; Neuhauser, 2002; Yunfei Du, 2004). Searches through educational databases with keywords and subject areas for learning and college students revealed a number of studies focusing on college students learning within specific learning environments or strategies. Among those are self-directed or active learning, problem-based learning, work-based learning, and learning-living communities (de Jesus, de Souza, Teixeira-Dias, &Watts, 2005; Dunlap, 2005; Gross & Monahan-Couch, 2006; Inkelas et al. 2006; Oon Seng Tan, 2003; Rangachari, 2006; Wyatt, 2005).

Several studies have demonstrated that females and males learn differently. Generally, studies on males' and females' learning differences have concluded that more females are connected learners who develop ways to access other people's knowledge, while more males are independent learners and use argument, analysis, and scientific methods (Belenky, Clinchy, Goldberger, Tarule, 1969; Keri, 2002; Knight, Elfenbein, Martin, 1997; Philbin, Meier, Huffman, & Boverie, 1995; Simpson, Portis, Snyder, & Mills, 1995). William Perry is identified by Cross (1999) as perhaps the best known developmentalist for study of learning in higher education. However, Perry's original study subjects at Harvard included only the interviews with men to illustrate and validate his scheme on intellectual and ethical development (Belenky et al., 1986). Cross (1999) briefly discussed three of his nine positions of intellectual

development as low-, mid-, and high-levels of intellectual development. At the low end of intellectual development, students assume that there is a right answer to everything and that the answer is known by the professor hired to teach them. These students have a low tolerance for ambiguity. Gray areas appear at the mid-level stages as students discover authorities disagree. At this stage, students adopt a stance that everyone has a right to their own opinion. At the highest levels of intellectual development, there is an affirmation of identity through commitment and self-actualization. Cross (1999) stated that this is rarely achieved by those who have been studied and says, "most developmental psychologists are constructivists. They contend that the highest levels of personal development are reached as the person discovers that truth is relative and depends on context" (p. 262). Nearly all college students fall within the lower and middle levels of intellectual development.

Contrasting and also building upon Perry's research, Belenky, Clinchy, Goldberger, & Tarule (1986), conducted research motivated by a concern about why women so often doubted their intellectual competence. The study included 135 women who were drawn from nine different academic institutions. In Perry's scheme, there was a clear sequential ordering of positions. These authors believed that in Perry's interviews with men and subsequent developmental scheme, he heard the way a homogeneous group of people were "socialized into and made sense of a system of values, standards, and objectives" (Belenky et al., 1986, p. 15). In analyzing their study, Belenky et al. (1986) used independent coders who were unaware of the women's demographics to score separate sections of the interviews that were designed to yield scores based on theoretical and empirical work of Perry, Kohlberg, and Gilligan. When attempting to classify women's data using Perry's scheme, they found that women's thinking did

not fit neatly into his categories. Building on Perry's scheme, they grouped women's perspectives on knowing into five major epistemological categories:

> *silence*, a position in which women experience themselves as mindless and voiceless and subject to the whims of external authority; *received knowledge*, a perspective from which women conceive of themselves as capable of receiving, even reproducing, knowledge on their own; *subjective knowledge*, a perspective from which truth and knowledge are conceived of as personal, private, and subjectively known or intuited; *procedural knowledge*, a position in which women are invested in learning and applying objective procedures for obtaining and communicating knowledge; and *constructed knowledge*, a position in which women view all knowledge as contextual, experience themselves as creators of knowledge, and value both subjective and objective strategies for knowing. (Belenky et al., 1986, p. 5)

Following blind analysis, Belenky and associates used further contextual analysis to capture the ways in which women construed their experience as developing beings in a learning environment. They developed ten bimodal dimensions they called *Educational Dialectics* that included, for example, Rational vs. Intuitive, Personal vs. Impersonal, Being with Others vs. Being Alone or on Own (Belenky et al., 1986). This research extensively looked at women's point of view and probed women's experience "because it had so often been excluded as people sought to understand human development" (Belenky et al., 1986, p. 11).

When students leave high school and enter college, they enter an adult world in which they are expected to take responsibility for their own learning. Another study by Gazella, Masten, & Stacks (1998) looked at college learning through investigation of the relationships between stress scores and learning strategies, test anxiety, and student attributes. The results of their investigation provided some predictors as to which students' stress experiences are related to their learning strategies, test-taking situations, and in everyday decision making. In another view concerning student adaptation to college and subsequent successful learning in college Cross (1999) stated:

> What we actually know through combining research with experience is that when faculty show an interest in students, get to know them through informal as well as formal channels, engage in conversations with them, show interest in their intellectual development, then students respond with enthusiasm and engagement. We also know that when faculty take learning seriously, the attitudes of warmth and intellectual engagement are contagious; they are caught by students and colleagues, and the result is a caring campus that is seriously engaged in learning. (p. 264)

Similarly, Thompson (1999) contends that cognitive development for college-age students proceeds most favorably "when sufficient challenges and demands are perceived by the individual and fear of being overwhelmed by them is minimized by both external support and inner coherence" (p. 58). Support is defined as available resources in the college environment for the coping process such as instructor accessibility, guidance and information, personal support, and instrumental support such as assistance with transportation, school work, outside jobs, and finances (Thompson, 1999). This information about the needs of college-age learners alerts educators concerning gender learning differences and also identifies the importance of the learning environment and support structures available for students in higher education.

Learning Theories: Historical Overview

Although many philosophers and educators have written about learning over the last century, few have organized their ideas into unified patterns that can be called *theories*. Understanding classical theorists' conflicting stands on important theoretical issues can clarify and illuminate our present issues. Different theorists started from different basic assumptions and had different views of behavior. By understanding how they coped with problems as they saw them we may be better able to solve problems as we see them (Bolles, 1975).

Philosophers and psychologists have debated the process of human learning over centuries. This controversy basically falls into two opposing perspectives, empiricism and

rationalism. Empiricism posits that experience, or sensory learning, is the sole source of learning. Thorndike's trial and error research in the late nineteenth and early twentieth century is an example of the empirical perspective. Thorndike advanced associative-learning research and laid the foundation for behaviorism that was initiated by John Watson and built upon by B. F. Skinner. Skinner's studies on conditioned response asserted that learning outcomes (observable behavior) were solely accounted for by forming associations and reflection without the need to assume intervening cognitive operations. Behaviorist traditions dominated the psychology of learning until the 1960s and the emergence of cognitive psychology.

Cognitive psychology owes a great deal to the cognitive behaviorism of Tolman, who said that learning consists of acquisition of information about environment rather than attachment of response to stimuli (Bolles, 1975). He identified internal cognitive processes as the main determinates of behavior and said that the real process of learning consists of a central cognitive operation (Snelbecker, 1974). Cognitive psychology considers reasoning the basis of learning and disagrees with the basic premise of empiricism, which posits that all knowledge arises from inputs and associations. Rationalists cited a wide range of mental activity that could not be accounted for by empiricism such as insight, solution to novel problems, language acquisition, infant depth perception, and others. Rationalism inspired Gestalt psychology, which posited that learning was derived from innate perceptual and problem-solving processes (Husén & Postlethwaite, 1994).

Behaviorist learning principles caused both conceptual and pragmatic problems in contexts involving higher cognitive demands. These learning principles defined the teacher's role as designing an environment that elicits desired behavior toward goals and extinguishes behavior that is not desirable. Behaviorist orientation underlies numerous educational practices

today: systematic design of instruction, behavioral objectives, instructor accountability, programmed instruction, computer-assisted instruction, and competency-based education (Merriam & Caffarella, 1991).

By the mid-twentieth century, psychology began to integrate theories derived from both the empiricist and rationalist traditions. For example, in curriculum development of the early 1960s and 1970s, educators used Bloom's cognitive taxonomy to write objectives developed to determine cognitive outcomes from observable behavior. Bloom was a student of Ralph Tyler and built on Tyler's work of the 1930s. What we know as competency- or outcome-based education is a curricular product of cognitive learning theory. Many forms of mastery learning can be traced to Bloom. However, though conceived as a method of cognitive learning, objectives became associated with behavioral approaches to instruction (Guskey, 1994).

Psychologists examined mental processes and learning, while sociologists studied education and the relationship between social background and achievement. Numerous cognitive learning theories grew from the integration of these two perspectives. In the 1960s, early cognitive psychologists focused on internal and active processes generated by the individual, constituting meaningful learning (Husén & Postlethwaite, 1994). Perception, insight, and meaning were key contributions from Gestalt learning theorists. For them, learning involved interpretation of sensations and reorganization of experiences to make sense of stimuli in the environment that sometimes comes in flashes of insight. The major difference between Gestalt cognitive learning theory and behaviorist learning theory was the locus of control over learning activity. The behaviorists were concerned with the environment while the cognitivists were concerned with the individual learner's mental processes (Merriam & Caffarella, 1991). Gestalt cognitive theorists asserted that the conscious experience of individuals must be considered

globally, taking the physical and mental aspects of an individual simultaneously as part of a system. Piaget was influenced by both behaviorist and Gestalt schools of thought. He clarified the focus on internal cognitive processes and believed that internal cognitive structures were altered partly by maturational changes in the nervous system and partly as a result of interaction with environment. Piaget's research in the theory that interpretations of experiences (schemas) undergo fundamental changes from infancy to adolescence had a major impact on cognitive learning theory. His theory of assimilation, accommodation, and equilibrium functioned in a system requiring that the child act in the environment (society) in order for cognitive development to proceed (Wadsworth, 1996).

The social learning theory of Lev Vygotsky also influenced cognitive theory. Though he wrote in the early 1920-30s in Russia, his work was not known until the 1970s. Like Piaget, Vygotsky viewed learning as a social process. Social learning theory moved beyond cognitive conceptions in Vygotsky's social nature of learning. He introduced the concept of the Zone of Proximal Development (ZPD) in which he distinguished between learning that would have taken place without outside help and the potential development possible under adult or more capable peer guidance. He described learning as a scaffolding process in which all mental functions possess their own deep-lying roots, not within each individual, but outside in the intercourse and relationships with others (Davydov, 1997). Today, many facets of cognitive or social constructivist theory have arisen from the work of Piaget and Vygotsky.

Also converging with cognitive learning theory are theories of instruction that attempt to unite what is known about learning with the best way to facilitate its occurrence. Ausubel, Bruner, and are examples of theorists who worked to understand mental processes linked to instruction. Ausubel distinguished between *meaningful* learning, which relates to existing

cognitive structure and incorporation of new information, and *rote* learning, which is not linked with a person's cognitive structure and easily forgotten. Ausubel's views are often contrasted with those of Jerome Bruner, who looked at learning through the lens of discovery. Discovery involves rearranging or transforming evidence so that one is enabled to go beyond the reassembled evidence in additional new insights (Merriam & Caffarella, 1991).

Bruner's theory of cognitive psychology identified acquisition of knowledge as active and people as transactional. His instructional theory is based on a theory about the act of learning that involves three almost simultaneous processes: "acquisition of new information, transformation of knowledge, and evaluation or checking to see whether the way we have manipulated information is adequate to the task" (Knowles, 1984, p. 25). Bruner also promoted the idea of structure of the disciplines, describing an approach in which the fundamental ideas of a discipline are used as the central themes for purposes of grouping and sequencing curriculum. An argument for this approach is that because of the vast expansion of knowledge in the 20th century, the student can no longer learn everything. Therefore, discipline analysis is needed to determine those fundamental ideas that form the structure of the discipline (Bruner, 1960).

In the 1970s and 80s, Gagné argued that there are several types of learning and that a comprehensive understanding must include both behavioral and cognitive theories. Gagné framed learning within events of learning, conditions of learning, and learning outcomes or capabilities (Gagné, 1977). Gagné's Instructional System included concepts of whole language learning (Hohn, 1995). His information-processing model frames mental events in terms of transformations of information from input (stimulus) to output (response). The implications for our understanding of instruction is that "external stimuli may be conceived as initiating, maintaining, or otherwise *supporting* several different kinds of ongoing internal processes

involved in learning, remembering, and performing" (Gagné, 1977, p. 17). Related to this idea is the implication that several *phases of processing* occur during a single act of learning. In Gagné's theory, recognition of patterns is a necessary condition for correct application of his concepts and rules. Patterns are a prerequisite to actions (Gagné, 1985). Linking acquisition and processing of knowledge to instruction has been thoroughly developed by Gagné (1977).

Instructional psychology joined mainstream cognitive psychology in the 1980s. Transitioning novices to experts gained increased attention with the advent of computer-assisted instruction. Cognitive scientists began to view learners as active information processors much like computers (Husén & Postlethwaite, 1994). Currently, a number of research and theory-building efforts take their start from mental processes of learning: information processing theories, memory and metacognition, transfer mathematical learning theory, study of expertise, computer simulation, and artificial intelligence (Merriam & Caffarella, 1991).

Gardner's theory of multiple intelligences presents a cross-cultural perspective of human cognition. Gardner's view is based on a radically different view of the mind than the traditional ranking by intelligence quotient. Taking a pluralistic view of the mind, his theory recognized many different and discrete facets of cognition and acknowledged that people have different cognitive strengths and contrasting cognitive styles (Gardner, 1993). He identifies eight types of intelligence: musical, bodily-kinesthetic, logical-mathematical, spatial, interpersonal, intrapersonal, moral or spiritual, and naturalistic intelligence. He thinks of intelligence as a "*biopsychological potential* " Gardner, 1993, p. 36), in which all members have the potential to exercise a set of intellectual faculties to deal with specific contents of environment without the need for formal tutelage (Gardner, 1993).

Cognitive psychology and the information-processing model remain dominant in current educational practice. However, cognitive psychology has been criticized for its strict focus on mental processes without considering social and cultural influences affecting learning. The writings of Piaget and Vygotsky have heavily influenced cultural psychology and its concern for learning in a social/cultural setting. At times, the cognitive and sociocultural perspectives appear to be in conflict. The current dispute is whether the mind is located in the head (thinking and cognition are dependent on the individual's brain functions); or, is the mind and its function in the individual dependant upon social interaction? Cognitive theorists view learning as primarily a process of active cognitive reorganization of the individual, while sociocultural cognitive theories see learning within enculturation of the individual in a community of practice. Also as part of the same argument of locus of mind function, cognitive theorists tend to characterize signs and symbols as a means by which students express and communicate thinking. On the other hand, sociocultural theorists treat signs and symbols as carriers of either established meanings or of a practice's intellectual heritage (Cobb, 1996). This concept is discussed further in the following section on constructivism, which divides into cognitive and sociocultural branches of constructivist theory.

In consideration of these different theories, some scholars discuss learning theory in light of its practice and effect in educational settings. Bredo (1997) discussed functionalism, behaviorism, cognitivism, and situated learning in light of how they are applied in today's schools. He particularly pointed out the polarization between behaviorist and cognitive approaches to learning saying, "Education based on such polarized views is likely to produce one-sided specialists who act in one-sided ways. Those instructing the 'learning disabled' in schools. . . tend to be trained as behaviorists, while those teaching the 'gifted' tend to be trained

in cognitive theory" (Bredo, 1997, p. 3). He criticized the idea that the locus of thinking and cognition was centered in the individual mind because it focused on the "lone organism" (p. 3) and excluded the social dimension. He compares this to one learning to make music by oneself. Bredo argued that conceptions of learning have evolved from a transactional concept apparent in functional psychology, to an environment-centered concept in behaviorism, to an organism-centered concept in cognitivism. Each approach to learning is more useful for some purposes than others. The choice of concept depends on the purposes one wants to advance and which conceptual tools are best adapted to it. "Does one want children to learn to 'think' or to 'behave,' for example (assuming these are distinguishable)" (Bredo, 1997, p. 5)? This viewpoint agrees with tenets of Gagné's view that an understanding of learning includes both behavioral and cognitive theories.

Similarly, Hohn (1995) identifies what he called an emerging theory of unified and educationally relevant learning, which acknowledges that theories are historical. Human learning is driven by the impact of many competing theories. He identified two lines of research that has emerged: (a) links between performance on higher-order thinking and problem-solving to conscious processing of information, and (b) a cognitive revolution within neurological evidence that the brain does not function as a switchboard for neural messages, but actively creates and generates mental states, which are intermediaries to behavior. Hohn asserts that learning theory must examine the context of learning and implicit theory (unconscious learning)[2] as a guide to action in which effective students construct their own learning approach and skills, in which structure exists in every academic area, and skills and structure are taught specifically.

More recently, expanding brain research reveals specific information about mental processes. This information supports and also challenges the paradigms of psychology and

cognition postulated in previous theories of learning and instruction. Jensen (1998) explained that brain research places great importance on patterning and also includes the concept that several phases of processing occur during a single act of learning. Brain mapping, or neuroimaging,[3] allows researchers to gain new insights into how we learn and reveals that the brain is a parallel processor, constructs patterns to make connections, and processes multiple tasks during brain activity. Jensen (1998) discussed recent technological advances that enable scientists to study the brain using magnetic resonance imaging (MRI) and the newer nuclear magnetic resonance imagery (NMRI) that captures an image every 50 milliseconds, allowing measurement of the sequence of thinking across very narrow areas of the brain. Positron emission tomography (PET), autopsies, and spectrometer also reveal information in the brain research explosion of the 1990s, resulting in dozens of sub-disciplines and providing implications for education.

Emotional, motor, visual, and auditory, as well as early thinking skills develop during the first year of life. The role of threat, diet, water consumption, and sleep is very important to healthy brain development. Stress and threats are identified as inhibitors to learning because of the chemicals their presence cause in the brain. Challenge and feedback are strategies discussed for enriching the environment, as well as the use of motivation and reward, how emotions and movement link to cognition, and the natural mechanisms of making meaning. Jensen (1998) lists three ingredients for optimal learning: emotion, relevance, and context and patterns. Emotions are a critical source of information for learning. Appropriate emotions speed up appropriate value-based decisions. Establishing relevance causes more likelihood that an already existing connection in the brain will link with new information and strengthen the neuron connections to which relevance is made. Patterns give context to information that otherwise would be

dismissed as meaningless and helps in memory recall. Brain research in memory systems, motivation, and the effects of emotions, stress, and threat upon brain functions all challenge basic assumptions about traditional education. For example, Caine and Caine (1990) assert that full understanding of this information requires a major shift in our definitions of testing, grading, and organizational structure of schools. As a general theoretical foundation for brain-based learning, these authors offer twelve principles to educators to help re-conceptualize teaching by moving away from the traditional frameworks and guiding toward selection of appropriate programs and methodologies. They also identify three interactive elements emerging from brain research that need to be present for meaningful learning: relaxed alertness, immersion, and active processing.

The growing body of information about cognition and the individuality of learners hold strong implications for instructional design, administration, evaluation, and the role of the on-line learning in higher education. Students are becoming increasingly ethnically diverse and, unlike previous generations, will face global rather than national issues. The phenomenal growth of Web-based instruction necessitates that instructors and professors teaching those courses study and consider instructional theories arising from social/cultural psychology and constructivist learning theories.

Humans are social beings intricately interwoven in culture. Integrated or interdisciplinary curriculum makes sense for students who will face multi-faceted problems in real life. Active collaborative learning situations that encourage creative thinking and problem solving will better prepare students to function in a fast-paced technological work place. Teaching strategies need to arise from what we know about the way the brain processes and stores knowledge. Recognizing the need for social interaction between unique individuals

through collaborative strategies helps instructors to provide learning opportunities that encourage students to gather pertinent information, make informed choices, develop supported arguments, and draw sound conclusions.

Understanding the history of learning theory is a necessary part of designing any course content. Research on teaching within the cognitive perspective often places the teacher in the role of a learner who applies what is known about learning in order to understand how people learn. Contemporary education is laden with postmodern duality and pluralistic issues that permeate our times. Educators in higher education must embrace new technologies and modalities for teaching using strategies informed by learning research.

Constructivism

By the 1980s, the research of Dewey and Vygotsky had blended with Piaget's work in developmental psychology into the broad approach of constructivism. Constructivism often utilizes collaboration and peer criticism as a way of assisting students to reach a new level of understanding. Active practice is the key of any constructivist lesson. These basic conceptions of constructivism can be traced back to John Dewey, who rejected the notion that schools should focus on repetitive, rote memorization. Instead he proposed a method of directed living, encouraging students to engage in real-world, practical workshops in which they would demonstrate their knowledge through creativity and collaboration. While Dewey used the concept of *reconstruction of experience* to describe the fundamental process of education, current theorists use a similar term, *constructivism*. In regard to experience, Dewey (1933) said:

> Experience is not a rigid and closed thing; it is vital and hense growing. When dominated by the past, by custom, and routine, it is often opposed to the reasonable, the thoughtful. . . . Indeed, the business of education might be defined as an emancipation and enlargement of experience. (p. 202)

For Dewey, experience should be judged on the educative quality that contributes to the growth of further experience. *Miseducative* experiences arrest growth of intelligence, social skills, and individuality (Dewey, 1933). Constructivism holds that there is a real world that we experience. However, the argument lies in whether meaning is imposed on the world by us or exists in the world independently of us.

Some argue that the constructivist position was first elaborated by Plato and documented by Socrates (Brooks & Brooks, 1999; Wadsworth, 1996). The nature of knowledge, therefore learning, has emerged over time as an essential line of inquiry. Bridging the 18th and 19th centuries, the philosopher Emmanuel Kant thought that reason had both a theoretical and a practical employment. Reason is theoretical when it is concerned with the way things really are (metaphysics), the investigation a priori of nature or reality—the discovery of rules via the sensible world. Considering how things ought to be (ethics) is practical. This application of reason seeks a priori for rules governing the way in which beings with free will ought to decide what to do (Kant, 1788). Kant attempted to wed two disparate views of knowledge: The view that logical analysis of actions and objects leads to growth of knowledge and the view that one's individual experiences generate new knowledge. Kant saw merit in both views. Analysis occurs after the fact; sensory experiences occur before or during the event. Both function through one's own unique mental filtering system. Kant concluded that "one cannot infer new relationships among objects, events, or actions unless one has a priori views through which perceptions can be organized" (Brooks & Brooks, 1999, p. 24). Constructivist theory takes this same basic philosophical stance, in that a learner functions and learns by filtering new information (experiences) through a priori perceptions (existing knowledge) to construct new meaning and

understanding unique to that individual. Underpinnings of Kantian philosophy can also be seen in the work of Jean Piaget.

Ideas greatly influencing constructivism were launched in the United States about seventy years ago by Jean Piaget. In the latter part of his life, he developed his theory concerning adaptation, which he explained by *equilibration*, a dynamic process of self-regulated behavior balancing two inherent polar behaviors, assimilation and accommodation. Assimilation is the organization of experience with one's own understanding in which one views the world through one's own constructs, attempting to reconstitute previous behaviors. However, every behavior results in an accommodation that is a result of the effects or pressures of the environment. Accommodation encompasses reflective, integrative behavior that serves to change one's self and explain an object in order to function with cognitive equilibrium (Fosnot, 1996). As we develop, each of us constructs knowledge that is an ever-closer approximation of reality as we see it—not a copy of the objective world. In Piaget's theory, knowledge occurs when children assimilate and accommodate experience. Construction occurs and is manifest in the individual's schemata, which undergo revision under disequilibration. The process of assimilation ensures that schemata are not copies of reality, while accommodation ensures that new constructions correspond in some way to the real world (Elkind, 1969).

Cognitive Constructivism (Piagetian)

Cognitive constructivism draws on gestalt cognitive learning theories like those of Piaget, Ausubel, Gagné, or Bruner. Ausubel and Gagné explained learning within a cognitive framework. Gagné's theory of learning serves as an example of a cognitive instructional theory that seeks to describe the conditions under which one can arrange the learning of specific

performance outcomes. Gagné thought it was important for teachers and instructional designers to think carefully about the nature of the skill or task they wanted to teach and then make sure the learner had the necessary prerequisites. His central notion is that different kinds of learning outcomes have different internal (skills and capabilities mastered by the learner) and external (teacher constructed) conditions that support them. Piaget saw the teacher's role as providing a rich environment for the spontaneous exploration of the child. Like Piaget, Gagné thought the teacher's role was crucial in arranging the conditions of learning. However, unlike sociocultural Vygotskian constructivists discussed later in this paper, Gagné's behavioral cognitive theory sets the conditions under which one can intentionally arrange for the learning of specific performance outcomes. On the other hand, Vygotskian constructivism challenges the notion that what the teacher thinks is being taught is not necessarily what is being learned by students.

Similar to Gagné, Jerome Bruner's cognitive constructivist theory is a general framework for instruction based on the study of cognition and linked to child development research (especially Piaget). Bruner (1960) said that learning is an active process in which learners construct new ideas or concepts based upon their current/past knowledge. The learner selects information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so. Cognitive structure (schema or mental models), provides meaning and organization to experiences, permitting the learner to go beyond the given information. Bruner advocated that the instructor and student engage in active dialog. The instructor's task is to translate information to be learned into a format appropriate to the learner's current state of understanding. Curriculum should be organized in a spiral manner so that students continually build on past knowledge (Kearsley, 1994). He also proposed that scaffolding should provide:

> the child with hints and props that allow him to begin a new climb, guiding the child in next steps before the child is capable of appreciating their significance on his own. It is

> the loan of the [adult's] consciousness that gets the child through the zone of proximal development. (Bruner, 1986, p. 132)

In more recent writing, Bruner seems to be looking beyond cognitive science to encompass social and cultural aspects of learning. He seeks to examine the interplay between the individual and his/her society through the exploration of an individual's narrative. Bruner is interested in the relationship between culture and mental development, mental processes involved in creating and understanding narrative and the nature of interpretative activity (Bruner, 1990). Although his background identifies him with Piagetian constructivism, his writing incorporates traces of social constructivism.

Piaget also saw social interaction as necessary for advancing the development of knowledge. He viewed intellectual development as a lifelong process that can be conceptualized as having cognitive, social, and affective aspects. For Piaget, affective elements decide whether ideas live or die and what experiences are selected for construction. Wadsworth (1996) stated that this gatekeeper of affectivity has been overlooked by many interpreters of Piaget's theory.

Sociocultural Constructivism (Vygotskian)

Fosnot (1996) defined constructivism as a psychological theory of learning derived from the combining of Jean Piaget's genetic epistemology, Lev Vygotsky's notion of the interplay between thought and symbol in concept development, and the work of semiotic interactionists[4] such as Howard Gardner and Nelson Goodman. While constructivism recognizes the role played by cultural influences and social processes, its study tends to concentrate on the development of individual subjects in relation to these influences - not on the cultural influences or social processes themselves. Sociocultural, social, or Vygotskian constructivists pull heavily from the socio-historical work and writings of Lev Vygotsky. Vygotsky's theory of higher mental

processes has roots in the Marxist theory that historical changes in society and material life produce changes in human nature. Unlike other developmental theorists, he approached cognitive development from a process orientation. According to Vygotsky, a child develops in two areas: current and future. The area of current development includes all that a child can do independently at a given time, which prepares a child for future learning outside this area. Surrounding the area of current development is a zone representing the child's level of development in the near future called the *zone of proximal development* or ZPD, "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 90). The ZPD includes all the functions and activities that a child or a learner can perform only with the assistance of someone else. The person in this scaffolding process, providing non-intrusive intervention, could be an adult (parent, teacher, caretaker, language instructor) or another peer who has already mastered that particular function.

The work of Piaget related to Vygotsky's work in that both believed learning to be developmental. Vygotsky saw a dialectical relationship between the individual and society and focused on the effect of social interaction, language, and culture on learning. He differentiated between *spontaneous* and *scientific* concepts. He defined spontaneous concepts (those of the type studied by Piaget) as emerging from the child's reflection of his/her every day experience. Scientific concepts originate in the structured activity of classroom instruction and impose more formal and logically defined concepts upon the child. The zone of proximal development (ZPD) facilitates the learning that moves the child from spontaneous concepts to scientific concepts. Spontaneous concepts work their way up in the process while scientific concepts work their way

down, imposing their logic on the child. Vygotsky argued that tests or school tasks that only looked at the child's individual problem solving were inadequate and that progress in concept formation achieved by the child in cooperation with an adult or more capable tutor was a more viable way to look at the capabilities of learners. Piaget observed the language of preschoolers and their egocentric language—spoken to themselves. Vygotsky proposed that this egocentric speech was actually the beginning of the formation of inner speech, used later as a tool in thinking (Kozulin, 1986).

Mediation is crucial to Vygotsky's theory of learning and development. Mediation occurs through the use of tools or signs, which change over time and throughout history. Cultural signs—speech, writing, language, symbols—are cultural signs available to humans to mediate contact within the social environment. When internalized, they enable humans to acquire the capacity for higher order thinking. If the process of constructing knowledge relies heavily on the use of symbols and signs, then semiotic theory becomes important to social constructivism. Semiotics, described by "Saussure (1916) is the science that studies the life of signs within society" (Osberg, 1997, p.11).

The relationship between signs, the objects they represent, and the mental processes making that connection, is a triadic representation between sign, object, and interpretant. This is illustrated in the cognitive process in terms of four components: sign, semiosis, inference, and reflexivity. Signs are metaphorical or analogical referents to some aspect, concept, object, or relationship and are context-sensitive. Semiosis is the process of making meaning or interpreting signs, which also can be context-sensitive. Inference refers to the nature of the process of thought in terms of deduction. Reflexivity is the awareness of the processes of semiosis or meaning, a part of metacognition. This model is congruent with constructivist theory of active

learning by experience to construct meaning in one's world. The interpretant concept of semiotic theory, the outcome or the effect of sign, entails reasoning by deduction, induction, or abduction. When taught, the abductive model allows individuals to use metacognition to assess their approach to a particular program (Osberg, 1997). Metacognition and higher order thinking are high priorities in both strands of constructivist teaching. "The very act of representing objects, interactions, or meaning embedded within a medium creates dialectical tension beneficial to thought" (Fosnot, 1996, p. 22). In other words, higher order thinking and metacognition involve thinking deeply or searching for resolution of opposing thoughts or ideas (creating dialectical tension), which benefits the quality of overall thinking.

Bruner (1986) identified Goodman as asserting that there is no unique real world that preexists independently of human mental activity. What we call the world is a product of minds whose symbolic procedures construct the world by interpreting, organizing, and transforming prior world-views to create (or construct) new symbols. Bruner (1986) said that Goodman's philosophy of understanding holds a central thesis in constructivism. He also stated that both Goodman and Gardner were similar in how they characterized the multiple modes by which intelligence expresses itself through constructivism. In Gardner's writing, he presents evidence for multiple intelligences to deal with what Bruner said were the result of "minds which become specialized to deal in verbal or mathematical or spatial forms of world making, supported by symbolic means provided by cultures which themselves specialize in their preference for different kinds of worlds" (Bruner, 1986, p. 103).

Cognitive and Sociocultural Constructivism

A basic disagreement between Piagetian and Vygotskian camps of constructivist

philosophy lies in the question, where is the mind? As opposed to the sociocultural (Vygotskian) constructivist view, the cognitive (Piagetian) constructivist perspective describes the mind in terms of the individual, restricting its domain to the individual's head. The sociocultural constructivist describes the mind as a distributed entity that extends beyond the bounds of the body into the social environment. Cognitive constructivism draws from the ideas of Piaget concerning adaptation and interaction. Von Glasersfeld (1993) stated that Piaget realized very early that whatever knowledge was, it was not a copy of reality but a mapping of actions and conceptual operations that had proven viable in the knowing subject's experience. Therefore:

> When Piaget speaks of interaction, this does not imply an organism that interacts with objects as they really are, but rather a cognitive subject that is dealing with previously constructed perceptual and conceptual structures. . . . knowledge does not exist outside a person's mind. (Von Glasersfeld, 1993, p. 4-5)

Von Glasersfeld emphasizes that one cannot place knowledge in books or other human artifacts. Socioculturalists are more likely to use knowledge in relation to cultural artifacts because they are interested in interactions among individuals and the social construction and transmission of language (Smith, Caris, & Ferguson, 2001).

Von Glasersfeld has been the major spokesman to advance the epistemological theoretical argument for cognitive or Piagetian constructivism that he called *radical constructivism*. Empirical support from research studies document that there are significant qualitative differences in the understandings developed by students in instructional situations and that these understandings are often very different that what the teacher intends (Confrey, 1990; Hiebert & Carpenter, 1992). Von Glasersfeld views learning as existing in the cognitive domain of the individual and teaching as public and social. Formal teaching can be seen as purposeful, designed, intervention into the process of learning through knowledge construction (Von Glasersfeld, 1993; 1997). This relates to Gagné's theory of learning previously discussed. The

learner participates in active construction of conceptual structures, which mediate between the learner and his/her lived experience. The teacher attempts to be a significant part of the learner's lived experience in order to mediate the shape and direction of the learning.

The concept of the ZPD argues that students can, with adults or advanced peers, master concepts and ideas they cannot understand on their own. Piaget, on the other hand, conceptualized the learner as applying operations by acting on objects in the environment to construct knowledge about the world. "Development occurs as the individual adapts logical and stable mental operations to external reality" (Richardson, 1997, p. 23). Piaget's theory proposes that humans cannot be *given* information that they can immediately understand. Instead they must construct their own knowledge and build through experience, creating schema—mental models—in their heads. When new information is encountered, the learner tries to assimilate it into his/her existing model—resulting in disequilibration. Fitting the new information into existing schema involves reconstruction of the model—accommodation—resulting in restoration of equilibration with newly gained knowledge in a newly-adjusted schema.

While Piaget referred to active construction of knowledge, for Vygotsky the construction of knowledge occurred through interaction in the social world. Richardson (1997) identified two distinct interpretations within Vygotskian constructivism in the literature. The first is a social or sociocultural interpretation focusing on the microlevel analysis of social interaction within the ZPD. This interpretation is concerned about learning, development, and language. The sociocultural constructivist treats larger social considerations in a general way. The second group extends this context to include a macrolevel analysis of the cultural politics of development for social interaction. The second Vygotskian interpretation she calls "emancipatory constructivism" (Richardson, 1997, p. 26), which she describes as being

interested in both the microlevel and macrolevel of social interaction. What distinguished the two is the extent to which Vygotsky's methodology is employed and the depth of contextualization. Critical analysis and reflection are stressed as pedagogical approaches. Studies that concentrate on learning within the ZPD must provide a "social and historical analysis of the roles of the student and teacher as well as the academic knowledge" (Richardson, 1997, p. 34). Richardson (1997) states:

> The subject of study is the contextualized individual, embedded within a society and formed through a dialectical relationship with the cultural milieu. Vygotsky (1986) argued that individual development could not be understood without reference to the interpersonal and institutional surround, which situates the child. The social context is mediated through sign systems, such as language and number classifications, which are historically produced artifacts. While for Piaget the direction of cognitive development moves from the individual to the social, the direction for Vygotsky is from the social to the individual. (p. 27)

Collaboration and Constructivism

While collaborative learning may be a strategy used in the Piagetian constructivist classroom, it is the social constructivist strand in which is imperative. Social interaction for Piaget is characterized as "the imposition of adult functions on biologically determined stages of cognitive development" (Russell, 1993, p. 189). This suggests that students need the right assistance at a particular developmental stage at which they can assimilate and accommodate information. By contrast, social constructivists maintain that "interaction in the collective is a necessary precondition engaging in self-regulation. Self-regulation as a process is achieved when individuals are able to find their authentic voice during problem solving by using the mediational tool of language" (Nyikos & Hashimoto, 1997, p. 507). Vygotsky maintained that social interaction is a prerequisite to learning and that isolated learning cannot lead to learning and cognitive development.

Collaborative learning is crucial to social constructivism. Collaborative situations are conducive to the concept of the ZPD. Collaborative learning is effective in enhancing achievement of students with different grade levels in a variety of subjects. In a similar way, collaborative learning is a strategy to help college students who have varying amounts of art knowledge to complete learning activities with greater understanding. It improves pro-social behaviors: commitment, helpfulness, caring regardless of ability difference, ethnic background, gender, social class, or physical disability. It develops skill in perspective-taking, greater self esteem, and more collaborative skills and attitudes helpful in living. Success in collaborative learning requires: (a) positive interdependence in which goals are set; tasks divided; resources, information, and materials are available; and a reward is set for joint completion; (b) direct interaction; (c) individual accountability; (d) training in small-group and interpersonal skills; and (e) time for processing or reflection (Hohn, 1995). Collaborative inquiry moves students beyond the isolated individual towards the integrated social individual. It moves beyond the classroom when teachers collaborate to teach interdisciplinary curriculum. It can also prepare and lead the learner toward metacognition, a high level of critical inquiry and thinking.

Nyikos & Hashimoto (1997) discuss the concept of cognitive apprenticeship (CA) facilitated in collaborative learning. Within CA in collaborative learning, students are encouraged to monitor their performance during the task, to compare their performance in the ways experts function, and to move between the roles of knower and learner to stimulate different types of cognitive activities and expand their perspectives. In criticism of art, for example, students could expand their perspectives by reading critical writings by professional critics, who are professional experts. Cognitively speaking, there is much similarity between CA and scaffolding but the relationship between the knowledgeable person and the learner differs in

terms of responsibility. In scaffolding the learner has the responsibility of making the effort while the more knowledgeable facilitator holds the responsibility as a tutor remains in the tutor role to help the learner incorporate new knowledge into existing knowledge. In CA, the roles of knower and learner switch back and forth in different types of cognitive activities. Observation and social context are fundamental to cognitive apprenticeships. This approach "emphasizes the role of thinking with emphasis on metacognitive, reflective thinking rather than on physical dexterity in traditional apprenticeships" (Nyikos & Hashimoto, 1997, p. 508).

Dewey emphasized the importance of creating communities of learners so that children could learn from each other. This practice helped children to find practical meaning in academic ideas as well as learn what democratic life entails (Dewey, 1938). According to Wagner (1998), president of the Institute for Responsive Education, Boston, collaborative inquiry needs to go beyond the classroom to become a whole-school concept, creating a learning organization. He maintains that the cry for better education needs to be addressed by abandoning obsolete answer-driven schools and adopting inquiry-based whole school collaborations. He says:

> A constructivist approach to change, by contrast, is based on collaboration rather than compliance. It is a process of action research and development in which everyone works to understand the problem, engages in discussion to reach agreement on the goal, and shares in the responsibility for implementing change, assessing progress, and achieving results. (p. 517)

The social constructivist position seeks to facilitate students to function in their culture and society.

Problem-based Learning Approach and Constructivism

Problem-based learning (PBL) was originally developed to train doctors how to approach and solve medical problems. Traditionally medical schools taught by requiring memorization of

information; however, this approach did not prepare them for real-world application. Howard Barrows, a physician and medical educator at McMaster University in Hamilton, Ontario, Canada, wanted to develop methods of instructing doctors who were capable of managing problems for those they treated. For Barrows, the ultimate medical education was in producing doctors who had knowledge and the ability to apply it effectively. Barrows developed PBL, which is summarized as the following process:

1. The problem is encountered first in the learning sequence, before any preparation or study has occurred.
2. The problem situation is presented to the student in the same way it would present in reality.
3. The student works with the problem in a manner that permits his ability to reason and apply knowledge to be challenged and evaluated, appropriate to his level of learning.
4. Needed areas of learning are identified in the process of work with the problem and used as a guide to individualized study.
5. The skills and knowledge acquired by this study are applied back to the problem, to evaluate the effectiveness of learning and to reinforce learning.
6. The learning that has occurred in work with the problem and in individualized study is summarized and integrated into the student's existing knowledge and skill. (Barrows and Tamblyn, 1980, pp. 191-192)

In education, Dewey (1933) viewed problems as a stimulus within experiences for intellectual development. Beane (1995) agrees, saying, "curriculum integration begins with the idea that the sources of curriculum ought to be problems, issues, and concerns posed by life itself" (p. 616). Piaget's theory of conflict and cognitive change (assimilation and accommodation), Vygotsky's theory of the zone of proximal development, and students' understandings within PBL and collaboration all formulate foundational theory and reasoning for PBL. We can also find roots of PBL in the Progressive era of education and in Dewey's thoughts and belief in the value of active experience. For Dewey, experiences outside of school

should provide educators with clues of how to adapt lessons to interest and engage. Concerning successful learning, he wrote:

> Methods which are permanently successful in formal education . . . go back to the type of situation which causes reflection out of school in ordinary life. They give pupils something to do, not something to learn; and the doing is of such a nature as to demand thinking, or the intentional noting of connections; learning naturally results. (Dewey, 1944, p. 154)

In an article titled "The Educational Situation," Dewey (1902) discussed the constructed character of experience. Dewey thought that not only the child's prior experience but also the results of the child's interactions with social and material conditions activated learning. Learning and culture were inseparable. In like manner, Eisner (2002) discussed learning in the arts in light of situated learning within classrooms; thus increasing students' abilities to apply what they have learned. He argued that taking the concept of applying what is taught has substantial implications for teaching. "There would be a sense of community and cooperation, a shared enthusiasm in which the language of the field—in this case the language used to discuss the arts—would become the educational coin of the realm" (Eisner, 2002, p. 95). Eisner (2002) also viewed another condition for learning centered upon the *problem*, which he defined as:

> a situation in which students' existing conceptual and technical repertoires are inadequate for coping with what they confront, and as a result they are challenged to think in new ways about how to grapple with the problem . . . . When there is no challenge, when everything is satisfactory, there may be little motivation to stretch one's thinking, to try something new, to experiment, to revise, to appraise, and to start again. Creativity profits from constraints. The problem is a major centerpiece by which learning is promoted. (p. 96)

In defining education, Delisle (1997) suggests that "all education involves either problem solving or preparation for problem solving" (p. 1). American educational practice generally demonstrates the premise that knowledge is something that can be transmitted directly from teachers or books to students. Meaning or comprehension is assumed to be carried through

spoken or written word. When knowledge or meaning is not acquired, it is often concluded that the problem lies with the student. Children construct knowledge by their exploration actions on the environment using either physical (manipulation of objects) or mental (wondering) activity. Learners play an active role in the construction of their own knowledge. Two phases may be identified in this process (Wadsworth, 1996). First, exploration of an object or idea provokes disequilibration or cognitive conflict. If exploration continues with a focus on making sense of (assimilating) that which produces disequilibration, then learning results from active involvement with a problem (accommodation). Physical knowledge is constructed through action on objects or thoughts.

> In a PBL environment, the learning process is student-centered and self-directed. Students construct actively and cooperatively from their knowledge base guided by learning goals that they have formulated. They work in small groups facilitated by a tutor (teacher), who stimulates group discussion and monitors the social group process. Authentic problem tasks are the starting point for learning as students build upon prior knowledge in order to achieve the required knowledge as well as the problem-solving skills. (Barrows, 1986)

When teachers skip the problem-solving stage of learning, students memorize material but may not fully understand how to apply it. Problems call for attention and can stimulate attention and motivation in students. The challenge for teachers is to set up a real-life problem that is within Vygotsky's *zone of proximal development*. PBL promotes students' active engagement with learning while the teacher facilitates as a helper and advisor. Students learn by discovery as they examine the problem, research its background, analyze possible solutions, develop a proposal or hypothesis, and produce a final result. Because they engage directly rather than passively with the material, they develop a greater understanding.

Problem-based Learning and Collaboration

Whether we use the language of *zone of proximal development*—emerging abilities which need to be challenged in order to develop (Vygotsky); or *disequilibrium* and the theory that the mind develops via appropriate interactions which introduce disequilibrium (Piaget); or *active experience* leading to discovery and learning (Dewey); we must concede that we are individuals developing and interacting in a sociocultural context. Despite unique differences, we grow by reorganizing, rearranging, and enlarging our individual selves as a part of a community. Students can solve problems individually. However, groupwork or collaboration can broaden thinking by introducing extended options from different viewpoints and can help students to function as they will need to function in real life—as a part of a community. Kearsley (2000) advocated an engagement theory where learners must be actively engaged in relevant tasks for learning to take place. He suggested that learning requires collaboration among participants and involvement in problem based activities using relevant, realistic learning resources.

Collaborative learning (groupwork) can be more effective for gaining understanding of abstract concepts than traditional methods of teaching. Cohen (1994) identified two basic conditions that must be met for groupwork to facilitate conceptual learning:

> 1. The learning task should require conceptual thinking rather than learning to apply a rule or memorization.
>
> 2. The group must have the resources to complete the assignment successfully. These include intellectual skills, vocabulary, relevant information, and properly prepared task instructions. (p. 9)

How does talking and working as a group assist conceptual learning? Webb (1991) reviewed 17 studies of junior and senior high school groups where students worked on math problems in small groups. One of the most consistent findings was that the student who took time to explain, step-by-step, how to solve a problem was the student who gained the most from the small group

experience. Explaining to a peer aids concept attainment. When groupwork demands thinking and discussion in which there is no clear, right answer, everyone in the group benefits from the interaction. Disagreement and intellectual conflict can also aid conceptual learning in groups (Cohen, 1994). Johnson and Johnson (1992) have worked extensively with cooperative learning groups and see conflict resulting from controversy in groups as positive, forcing individuals to consider new information and to gain cognitive understanding that will transfer to new settings. Exposure to different viewpoints helps learners to examine their environment and perspectives more objectively. However, when collaborative learning is handled poorly by assigning groups without a structure and plan for working or guidance and help in collaborative strategies for dialogue and conflict, students feel abandoned and resentful of the instructor. They come to view constructivist strategies as a way teachers get out of working.

On-line Learning

Discussion-based on-line learning is generally text-based and asynchronous in nature, meaning that all participants can log on and participate in discussions at a time most convenient to them. This presents challenges but also can make learning innovative and exciting. Asynchronous on-line learning literally opens up global possibilities in which students from around the world might interact and communicate with each other and the instructor. This creates possibility for enriching learning experiences that also help to break down cultural barriers.

Moore (1984) in considering the meaning of distance in education stated:

> There is now a distance between learner and teacher which is not merely geographic, but educational and psychological as well. It is a distance in the relationship of the two partners in the educational enterprise. It is a "transactional distance." (p. 155)

Bender (2003) discussed this relational distance in on-line learning identified as *transactional distance*, which describes the extent to which the teacher manages to successfully engage the students in their own learning. If the on-line teacher can establish meaningful educational opportunities with the right degree of challenge and relevance, while also giving students a feeling of responsibility and commitment for their own learning, the transactional distance of teacher and student diminishes. Just as in the traditional classroom, in the social dimension of the on-line class, students must encounter an environment in which they feel as an insider rather than an outsider (Wegerif, 1998).

John Dewey in his 1910 essay, "What is Thought?" discussed four levels of thought: (a) random, fleeting thoughts of which we are not really aware; (b) thoughts not perceived by our senses as thinking *about* something; (c) belief-based thoughts that seem reasonably probable; and (d) reflective thoughts that center on important consequences of particular beliefs and provide evidence as to whether the initial belief is true. In connection with Dewey's points, Bender (2003) asks, "Does information presented primarily in written form make some people aware of details that they would normally overlook in a face-to-face context?" (p. 26). She believes that students have a great potential to absorb more information in the on-line setting because they can take their time, work when most convenient and when they are at their best, and they can reread and reflect upon information they may have missed the first time because of lack of concentration. Students might be learning at Dewey's level four reflective thoughts, but random level one thoughts such as, "I'm cold," or "I hope my car holds out another semester," pop in and out, uncalled for and distracting. Concentration is lost but the words are still available on the computer screen whereas in the campus classroom, they would be lost into the air. Attention is more likely to be retained by a clear on-line course design with easy-to-find and logical

meaningful sequences and by succinct mini lectures and discussion responses rather than long texts.

Berge (2002) suggested a framework for an on-line learning environment that is based in active, interactive, and reflective learning. This author stressed pre-learning activities that should provide an explanation of course materials and the organization, priorities, deadlines, and responsibilities of the student, the instructor, and the course. Constructivist environments engage learners through *authentic* projects and problem solving situations through an inquiry-based strategy. This type of learning involves interaction with content, interaction with peers, interaction with the instructor, and feedback and evaluation. "Active reflecting is described as learning by reflection upon experience. . . . One of the characteristics of eLearning is that it can include asynchronous communication features that allow students more time for reflection" (Berge, 2002, p. 187).

Discussing topics under study is vital to the on-line class. Frequent feedback is helpful in letting students know how they are doing and for maintaining their motivation. Positive feedback is particularly important on-line, where tone of voice and facial expression are absent. Critical words can come across more harshly than intended. The on-line teacher must be concerned with personalizing education and being responsive to each individual student. In on-line discussion, the instructor can come to know students and how they think. On-line discussion may expose difficulties faced by students with learning disabilities or for whom English is a second language. Varying teaching style and mixing individual and cooperative assignments helps to meet needs of an array of cognitive styles among students (Bender, 2003).

Review of Related Studies & Literature

Research Studies: Aesthetics and Criticism and Related Art Learning

Research studies on student's perspectives of their own learning in aesthetics and criticism are scarce. This section reviews research studies involving aesthetics and criticism and studies of research related to overall learning in art education.

A search for research studies in the area of aesthetics and criticism reveals a variety in scope and subject. In two different studies, Favre (1981) and Turgeon (1981) proposed the study of aesthetics as a learning theory. Favre (1981) described the aesthetic experience as an *interpreted perception*—a covert response displayed as an overt response such that "the *effect* and/or *value* of the experience becomes a memory percept through the process of learning" (p. 35). His model of the process of learning used art production or appreciation as aesthetic object or event stimulus that was processed by sensing through perception. In Favre's model, perception involved the art experience, memory (past experience), insight (meaning, concept) and results in valuing, which he viewed as a covert response of learning. From this process emerged the overt response of criticism, consisting of objective and subjective valuing. In a different study concerning aesthetic theory development, Turgeon (1981) sought to develop a theory of aesthetics modeled on Piaget's epistemology. This study applied Piaget's three types of figurative knowledge: perception, imitation, and mental image. Final conclusions identified the aesthetic event as a cross section of stage-dependent modes of apprehension. Its conceptual meaning frequently involved use of formal operations to grasp its cognitive import. It also demanded an intense perceptual gaze that was open and sensitive. "Piaget's descriptions of cognitive processes were transferred into this aesthetic context and thereby illuminated both the

nature of the aesthetic event as such and the role of cognition within that event" (Turgeon, 1981, p. 254).

A few research studies focus on aesthetic theory connected to perception and aesthetic stance. Kraft (2006) described an aesthetic theory and art making class designed for pre-service art education students that encouraged them to adopt a particular aesthetics stance for creation of a project. This concept followed a fundamental purpose of the aesthetics and criticism class used for this study in that readings and activities throughout the semester provided groundwork for projects and assignments. Kraft (2006) described her course design as serving the purpose to "survey the history of aesthetic theory but also provide for 'interventions,' opportunities to examine . . . collective 'stored knowledge'" (p. 13).

In another case study of 24 non-art college students, Farmer (1974) sought a means for developing individual perception in ways that promoted understanding of one's self and meaningful encounter with the world through experiencing and perceiving in a sensuous aesthetic mode. Attitude affects ways individuals establish values in the personal realm. Farmer asserted that just as there are conceptual models in the cognitive realm, there can be conceptual models for learning in the affective realm. Valuation, which results from a critical analysis, establishes preferences. In other words, as learners critically analyze something, their attitudes affect how they place value, which establishes preference by where they placed value. In Farmer's learning model, students were introduced to artworks to look at, examine, describe, and compare/contrast using as many senses as possible. For example, students might be asked to take a walk in the artwork and describe possible smells, noises, activities. In Farmer's study, students reported that becoming involved in an artwork and making their own discoveries and conclusion made them engage more and gain more from the artwork. Consequently, students

also expressed an increased interest in art. Farmer concluded that development of a sensuous aesthetic perception should be a basis for learning. The quality of society depends on the affective and perceptive nature of individuals experiencing through interaction of three operations by students: attention, analysis, and interpretation/evaluation. The thesis of the study focused on sensuous/aesthetic perception for its influence on affective learning by the individual. Farmer concluded that an active involvement with aesthetic critical inquiry increased the quality of perception that students gained.

Other research studies investigated learning in art. Erikson (2005) conducted an exploratory, design-based study of the development and implementation of an on-line art unit designed to teach for transfer defined as occurring when learners are able to recall information and use it appropriately in new situations. Erikson used a Web-delivered program, *Who Cares for Art?* (Erikson, 2005a). This program introduced students to the theme that we all treasure things that have special meaning for us and focused on four key questions: "Where do ideas and images for art come from? What visual qualities come from using what tools, materials, and processes? Who takes care of art and how? Why do different people understand and value artworks differently" (Erikson, 2005, p. 172)? This study involved seven secondary art teachers in collaboration with the researcher to develop, implement, refine, and evaluate the effectiveness of an instructional intervention. The goals of the study included the design of a learning environment that integrated on-line and traditional instruction and the identification of research issues to guide the refinement and elaboration of transfer theory. Research issues that emerged from this study centered on prior computer experience, student writing, computer independence, graphic icons, practice, teacher and peer interaction, and features of hybrid on-line-offline art instruction that increase meaningfulness of art activities for students (Erikson, 2005).

In another study of learning in art, Stout (1995) conducted a study of her pre-service professional foundations course for teaching various values and methods of teaching art criticism at the secondary level. In this course she used an informal conversational format that she defined as *organic*. Students kept journals in which two columns were created: the left for class notes and the right for dialoging and mentally interacting with the left. Students also studied theory and practice of critical thinking in visual arts. Participants in the study marked in their journals what they thought was their best critical thinking, affording the investigator an opportunity to see what they perceived as critical thinking. As expected, a considerable range in the quality of thinking was found in the journals. Stout makes a case for the active inquiry of the teacher/researcher facet of her qualitative case study that centered on *context* rather than *generalizability*, for meaning and worthwhile improvement in the practice of education.

In a study relating thinking and study of the arts at the college level, Lampert (2006) utilized qualitative date from the California Critical Thinking Disposition Inventory (CCTDI) to survey 141 undergraduates at a large, urban, public university. The sample consisted of two discipline groups of students, arts and non-arts, and two class rank groups, freshman and juniors/seniors. When class groups were compared, juniors/seniors showed a significantly higher mean overall score on the CCTDI. Comparison between the arts and non-arts groups showed no significant difference in overall mean CCTDI scores, but the arts students were found to have significantly higher mean scores on the research instrument subscales of truth-seeking, maturity, and open-mindedness. These results suggest that learning in the arts builds strengths in several critical thinking dispositions. It also offers evidence that the arts enhance the disposition of students to think critically (Lampert, 2006).

Response to fine art and visual culture, such as cartoons, advertising, and visual propaganda was the focus of a case study by Freedman & Wood (1999). Survey questionnaires revealed three emergent themes: (a) purposes of visual imagery, (b) interpretation of visual images, and (c) relationships between visual images. Overall, the students rarely stated that the main purpose of fine art or popular culture images was to elicit an affective response or was created for aesthetic reasons. Students learned from images during the study, but did not seem to consider images inherently didactic or to grasp imagery in relationship to its influential properties. They interpreted questions about images in terms of the creator, not the audience. Students most often believed the purposes of fine art images or popular culture were to depict a scene or people, illustrate a concept or communicate an idea. Results of this study revealed that a consideration of student responses to visual culture may aid in our understanding of how they respond to fine art. In popular culture, the intention to convince or persuade is understood through the combination of signs that are thought to have clear, previously defined definitions and meanings to a targeted group. As a result, construction of meaning from popular images may be easier for them than from fine art made up of more ambiguous signs. Also, students have less experience interpreting fine art images. The study also indicated that their learning about imagery in general may be structured differently than developmental research using only fine art suggests.

Parsons (2000) in discussion of developmental stages of aesthetic development lists: "favoritism, beauty and realism, expressiveness, style and form, autonomy or judgment of concepts and values with which the tradition constructs the meanings of works of art" (p. 278). In Parsons' (2000) study, students' responses to connecting images to other forms of culture may indicate that they could interpret to a greater extent with direct instruction. Results of this study

suggested that curriculum should include a greater focus on analysis of visual culture in all forms, including relationships between types of imagery and the multiple meanings they suggest. This kind of education blurs traditional art categories, especially in contemporary times (Freedman & Wood, 1999).

A number of studies have been conducted in relationship to art production with computer graphics programs related to art learning. Freedman (1989) conducted a study that indicated that the use of paint systems can promote certain aspects of divergent thinking in children. Freedman and Relan (1992) conducted a case study of a class of university students who learned to use paint system software. The study questioned whether computers were more conceptually restricting than other media, giving students feelings of being controlled as they focused too much on the technical or production aspects of making computer graphics and not enough on the conceptual or ideational aspects of the images themselves. Findings of this study indicated that:

1. There was a general shift during the learning process from focus on production to ideation in image development;
2. Students' images developed interactively in production and ideation indicating that the students controlled the computer and the computer influenced changes in images;
3. Social interactions among the students were important to their computer graphic development and to their learning about aesthetic possibilities and decision-making. (Freedman & Relan, 1992, p. 98)

In another qualitative study involving art production and use of computer software, Bain (2001) researched the effectiveness of the digitalfolio as a learning tool in a college introductory level computer art course. She was specifically interested in learning from students' viewpoints how their creation of the digitalfolio impacted their learning and creative processes. Results indicated that the digitalfolio allowed students a means to gain technical skills, experiment

without the risk of being graded, synthesize classroom instruction, and create studies for further works of art.

Research Studies: Learning in Constructivist Ways

Learning in a constructivist environment involves a well-prepared facilitator who can guide students toward self-regulation and self-confidence. Hughes and Daykin (2002) conducted a study investigating students' perceptions and learning in a constructivist on-line environment. Findings suggested that students were quick to overcome anxieties about on-line learning but did not develop significant discussion. Students communicated that groups did not function in a way that supported peer tutoring and anxiety and tension resulted between students who liked to prepare assignments early and those who left things to the last minute. The investigators identified that clearly missing in the design of the study was a constructivist scaffolding checklist providing students with guides and criteria for critiquing and providing feedback to group members. Strongest recommendations were staff development in facilitator skills such as when to contribute, how to answer queries and how to move groups towards higher order thinking skills.

In a study that used art history constructivist inquiry methods of interaction to explore visual culture's influence on art criticism, Chanda and Basinger (2000) sought to find if third-grade children could construct culturally relevant understandings of the purpose and significance of African Ndop statues. Children began with an initial image of Ndop statues and then expanded their investigation with a range of artifacts that were attached to the Ndop statue and a contrasting image of Henri VIII by Hans Holbein. Students were engaged in meaningful, interactive learning that allowed them to build or transfer mental structures and formulate their

own strategies for understanding. Results of student interpretations ranged from very culturally relevant to not representative of what members of the culture would say regarding the Ndop images. Results may question the idea that contextual understandings are beyond the developmental level of elementary children; however they may provide a basis for development of methods to assist children in construction of culturally relevant understandings of African art (Chanda & Basinger, 2000).

In results from a research survey study of art approaches of college art appreciation instructors, Stout (1999) revealed an emphasis on breadth of coverage, interpretation through formal properties, and a preponderance of student readings in secondary sources. Stout deducted that this represents a discontinuity between contemporary constructivist learning theory and actual teaching practice. In responding to these findings, Stout's (1999) described her own pedagogical explorations and the "theoretical and practical advantages of a constructivist shift from breadth to depth, and from formalism to contextualism, through the inclusion of artists' primary source writings in art appreciation studies" (p. 226). Stout posited that her constructivist-motivated choice to replace a portion of the textbook readings with primary sources from artists and art experts resulted in high yields in learner involvement and depth of student thinking about art. The course was writing intensive and students assumed a more active role in research when they started from the artist's writing of his own work rather than reading a secondary source via an art appreciation text. In assessing final essays, she found that students had grasped the need to comprehend visual properties but also they understood that meaning in art is constructed through a complex set of contextual variables. Even though some breadth of exposure in art appreciation was sacrificed, the depth of what was studied was more meaningful (Stout, 1999).

Marra and Jonassen (2001) discuss the findings of their case study of an on-line course that was designed from a distance learning pedagogy that emphasized constructivist learning: alternative forms of knowledge representation, authentic forms of assessment, and the use of distributed tools on student outcome and student perceptions. These researchers criticized on-line delivery packages such as Blackboard®, WebCT®, E-College®, Virtual-U® and others who follow a more behaviorist/empiricist model for an objective teach and test model. Their subjects were first-year teachers enrolled in a graduate education course. The course proposed and applied a constructivist framework for using technology to enhance learning and all course projects reflected this orientation. Students were required to represent ideas and knowledge via concept maps, Web pages, integration and lesson plans in their discipline areas. Every assignment included an assessment rubric and outside support provided a prompt turn-around of e-mail inquiries, on-line discussion boards for questions and help from peers and the instructor, and electronic and telephone access to on-line learning help desk personnel. The course delivery system was able to provide the technologies students needed to complete assignments; however supporting student construction using the technologies was problematic. In response to the question about what was difficult for them about self-regulated learning, a variety of responses were reported including having to pace their own learning activities and feeling isolated physically from class peers. The one consistent response concerned difficulties learning to use the technologies needed to complete assignments via the on-line format. Several students observed that having to learn the technologies in on-line fashion actually interfered with their desire to learn more about using these technologies in order to support learning. Among a number of recommendations for innovative and committed faculty and designers of Web-based courses, these researchers listed: (a) Try brief segments of compressed video to demonstrate and

model any key aspects of learning to use the technologies; (b)Provide a list of FAQ's to help learners find answers to problems and questions most frequently encountered; require pre-requisite skill development of students; (c)Try *synchronous* on-line sessions for coaching technology tool use; (d) Re-conceptualize on-line systems that support more meaningful learning.

Chang (2002) used a quasi-experimental approach to study the effects that facilitation and prior experience in on-line learning had on participation, cognitive restructuring, and learning achievement. The independent variables were facilitation, sequence of facilitation, and experience in on-line learning. Dependent variables were participation in on-line discussion, learning achievement by facilitation level, learning achievement by facilitation sequence, and cognitive restructuring. The participants in this study were 29 students enrolled in one on-line graduate course. Cognitive restructuring was defined by the individual's overall framework, which represented the pattern of relationships among concepts and served as a basis for incorporation of new knowledge. Using a repeated measure design, facilitators of discussions in this study administered two treatments during on-line discussion (low-level and high-level facilitation) in two treatment stages (1^{st} and 2^{nd} half of a semester). This study found that facilitation in terms of high-level versus low-level had insignificant effects on the learning process. However students' prior experience in on-line learning was significantly correlated to facilitation effects in that non-experienced students responded more effectively to on-line facilitation by generating significant cognitive restructuring and subsequently enhanced their learning achievements to some degree. The findings draw a pattern of how on-line facilitation influenced the learning process of experienced students. In the beginning phase of learning, on-line facilitation started with an insignificant effect on participation but preceded with a

significant effect on cognitive restructuring at the middle phase of the learning process, then finished with an insignificant effect on learning achievement at the end (Chang, 2002).

Research Studies: Web Courses/Technology

Over the last decade, numerous studies using grade distributions to determine student success in courses show that students do as well through distance (on-line) learning as they do in FTF classes (Halsne, 2002; Smith, Caris, & Fergusun, 2001; Souder 1993; Verduin & Clark, 1991). Some reports have found that on-line learners perform on assessments equal or better than FTF students (Arbaugh, 2000; Chanda & Daniel 2005; Clark, 1999; Dobrin, 1999; Navarro & Shoemaker 1999; Trinkle 1999). Gunn (2001) examined some published case studies reports of frameworks for effective on-line teaching and course management. From her review of these case studies and literature, she compiled a distilled list of attributes and behaviors of effective on-line teachers as follows:

- Give on-line learning a human face, for example, by having an initial face to face meeting or introductions from all students
- Help to clarify roles and responsibilities, time management techniques and expectations, i.e. provide a structure and boundaries for students to work within
- Facilitate, moderate, motivate and promote participation
- Demonstrate good practice, be explicit about what is good and what is excellent performance
- Respond in a timely manner and give appropriate (constructive) feedback
- Base courses on the articulation of sound pedagogy and assessment practice
- Provide adequate materials and activities to accommodate all learning styles
- Promote and encourage self-management and responsibility
- Evaluate, review and modify teaching practice according to feedback
- Engage in professional development to keep up with innovations (Gunn, 2001, p. 242)

Sorg (2000) used a theoretical framework based on constructivist collaborative learning theories in a case study of two graduate students and five undergraduate students. Evidence collected focused on learners' responses to synchronous and asynchronous (e-mail messaging) computer-mediated communications. The study identified two cognitive learning strategies: management of personal resources and management of technology. It additionally identified two affective learning strategies: management of self and management of others. Computer mediation was found to affect both cognitive and affective experiences of learning and synchronous computer conferencing was judged a potentially motivational and effective tool for interactive distance learning. Impacts on students' learning experiences included learner characteristics, course design and computer-mediated components, structure of interactivity, and moderation of weekly synchronous computer conferences. Implications indicated a need for opportunities for students to connect with peers early in the course and the need for learner input. This study indicated a need for additional studies in student collaboration in a computer-mediated environment, student-teacher power relations, moderation of synchronous computer conferences, and integration of on-line experiences with community-based field experiences.

A case study by Chanda & Daniel (2005) is of particular interest because it focused on visual art course content. This study compared student learning of identical content in an art history FTF lecture without interactive component, a FTF lecture augmented by multi-media interactions, and an on-line content model also augmented by a multi-media interactive. The data suggests that students learn just as well, if not better, from the multi-media interactions as assets to the learning experience. This holds implications for design of content presentation in any class, but specifically supports the positive influence of active learning on the part of students.

Smith, Caris, & Ferguson (2001) conducted a qualitative study that investigated differences, from the point of view of instructors, between teaching college courses over the Web versus in more traditional FTF formats. Results indicated far-reaching consequences for on-line classes in terms of "greater equality between students and instructors, greater explicitness of required written instructions, greater workloads for instructors, deeper thinking manifested in discussions" (p. 2). Advantages identified by instructors in this study included the following:

- Because the on-line medium itself required emphasis on the written word, students must write down their thoughts, encouraging a manifest deeper level on thinking (p. 4). The realization that those thoughts will be exposed semi-permanently to others in the class seem to result in a deeper level of discourse.
- The threaded discussion, a common feature in on-line classes, required students to write their thoughts down; this encouraged the realization that those thoughts would be exposed semi-permanently to others, which brought on a deeper level of discourse.
- Asynchronicity of the on-line environment also means that the students and professor can read a posting and consider their response before positing it, resulting in deeper levels of thinking.
- Every student can participate in on-line threaded discussions, especially if this participation is part of the class grade. An initial feeling of anonymity exists, which allows usually shy students in the FTF classroom to participate in the on-line discussion.
- Anonymity creates more equality between students and professor in an on-line class. Students feel free to debate intellectual ideas and even challenge the instructor and often create stronger one-to-one relationships (instructor-student and student-student) than are formed in FTF classes. (p. 4-5)

Some studies have focused upon student issues and characteristics, motivation, and attitudes concerning the on-line course. In respect to student satisfaction, Motiwalla and Tello (2000) conducted an exploratory study of 31 on-line classes in an undergraduate program. All courses utilized a framework similar to the Blackboard® interface used for the course in this study, which made use of discussion boards and e-mail (asynchronous) and chat rooms, on-line whiteboard, and group collaboration and tutoring (synchronous). Results revealed mostly

moderate to high student satisfaction. Even in cases of dissatisfaction with technology interface, students adapted and were satisfied with the course. These authors observed a critical difference between the FTF and on-line class was learning flexibility. The Web-based model supports the learner's ability to access course materials and interacting with classmates, the material, and the instructor at a time and place convenient to them.

Related to student attitudes in on-line courses, Wegerif (1998) studied the social dimension within on-line classes that has a direct impact on transactional distance. In a study based on interviews with 21 students enrolled in an interactive on-line course, he discovered that the degree of success or failure of students was closely related to whether the student felt like an insider or an outsider. One student remarked that she gained the most from the course through collaboration with others. She learned from her peers and felt that great friendships had developed between her and some of her on-line colleagues. Another student dropped the course before its end and said she did not feel that collaboration could work well on-line because unless she could log into the class every day, the conversations would leave her behind and overwhelmed. These comments demonstrate both strengths and weaknesses of on-line learning. Some students find it easier to write on-line than others who find it frightening, especially if they feel unsure about a particular topic. Students who are very introverted in FTF classes often feel very confident in the on-line class and visa versa. Because of the asynchronous nature of the on-line class, the instructor/facilitator must design the course so that a sense of community is established as quickly as possible. A necessary first step for collaborative learning in the on-line environment is forming a sense of safety and commonality. Students need to feel they are treated sympathetically by their peers or they are likely to be anxious, defensive, and unwilling to take the risks involved in learning.

Lai (2002) reported on an ethnographic research project in which she examined student communication using the Internet resources such as chatrooms, discussion forums and listserv (informal person-to-person e-mail but automatically distributed to all members of the class). She found these tools particularly useful for giving the students a chance for inquiry, reflection, and debate on a wide range of issues. Discussion forums were used to facilitate asynchronous person-to-group and group-to-class communication. Students could post group projects or attach the text of their report and any audio-visual materials so that all could share. Lai (2002) found that students felt a degree of freedom and time provided by the Internet technologies, which suggests the possibility of greater interest and motivation for active student participation and interaction. In her virtual class she found that students sought out further means of interaction (telephone, e-mail, instant messenger) as well as FTF meetings. "The virtual class often seems well-equipped for encouraging our 'technosocial' students to take their own initiative regarding their education" (Lai, 2002, p. 38). Lai also noted that because the on-line class was text-based, it also had the potential for helping students improve writing skills and to understand the importance of writing in art.

Research Studies: Student Attitudes and Learning

Research in various disciplines have confirmed the importance of students' perceptions of their learning situation (Crawford, Gordon, Nicholas & Prosser, 1994; Jackson & Prosser, 1989; Lizzio, Wilson & Simons, 2002; Struyven, Dochy & Jansens, 2003; Thorn, Vigilante & Silverthorn, 2002; Trigwell, Hazel & Prosser, 1996). Biggs (1979; 1987; 1989; 1993) has progressively developed a model for understanding and teaching in higher education. Student perception is that students do not act upon the objective world or the designed learning

environment but on the world as they experience it. This experienced world is a result of the internal processing of students' received perception of the goals of the course, the assessment, the assignment procedures, etc. This implies that students do not necessarily perceive the situation as the instructor intended. Different students form different perceptions and approach their learning tasks in various ways that are influenced by students' prior experiences (Dochy, Segers, van den Bossche, Struyven, 2005).

Trigwell, Hazel, & Prosser (1996) used and further developed the Biggs (1993) model in a study of student perceptions of a learning environment that encouraged deep approaches to learning. University students in two first-year science topics (University A Physics, University A Biology, University B Physics, and University B Biology) were asked to complete two questionnaires to determine their learning approach in science and their perceptions to the learning environment. Relations between the perception of the learning environment and approaches to learning were explored using principal component factor analysis with varimax rotation and hierarchical cluster analyses using Ward's method. Three clusters resulted from this analysis. Cluster 1 reported adopting a deep approach to learning, experienced good teaching, clear goals, appropriate assessment and workload and some independence in learning. Cluster 2 reported a surface approach. The third cluster (the majority) expressed various degrees of perceptions that fell between the other two groups. Also explored was the relationship between the deep approach variable and the two perception variables (good teaching and independence) and between the four different learning environments. The results of this study implied that students' perceptions are a function of both the designed context and of the students' prior experiences. A second implication of the study is that students' approaches to learning are contextual in that they vary their approaches depending on their perceptions of the context as

also evidenced by Biggs (1993). This research reached two conclusions: First, while there is a relation between perceptions of the learning environment and approaches to learning at the topic level, large proportions of students still perceive no particular influence from the environment. Secondly, learning environments designed to encourage deep approaches to learning are not necessarily perceived by students as encouraging them to think deeply (Trigwell, Hazel, & Prosser, 1996).

In a related study to investigate students' perceptions of a PBL environment, Dochy, et al. (2005) researched (a) the extent that students' perceptions of a PBL environment match PBL theoretical assumptions, (b) the extent students' perceptions differed between PBL during a traditional (lecture-based) course and students in a PBL curriculum, (c) the differences between first-year students and final-year students experienced in PBL for 2 years and more, and (d) the interaction effects between study phase and the subject discipline. Students were asked to complete a survey consisting of items in four scales that assessed the students' perceptions of the role of: (a) the tutor, (b) the tutorial group, (c) the problem task to enhance learning, and (d) the kinds of student activities enhanced by PBL. The survey instrument also contained five open-ended questions that gave the possibility of elaboration about the learning environment. In general, results indicated significance to the minimum of .05 that students studying in a mainly traditional setting perceived the various design variables of PBL as enhancing their learning. An encouraging finding was that the student scale was perceived as highly contributing to students' learning, indicating that a powerful learning environment promoted active learning. There was a clear influence that students from schools with educational sciences backgrounds perceived the context of the learning environment as more important, possibly because of the attention paid to theories of learning and instruction and their intrinsic motivation in learning and teaching. The

research found small differences between the different educational phases and disciplines within the context of a complete problem-based curriculum. The researchers concluded that this indicated that the most important external factor influencing the perception of PBL is the broader instructional context in which it is implemented (Dochy, et al., 2005).

CHAPTER 3

METHODOLOGY

This chapter discusses the rationale for using a qualitative case study research method and the procedure used to collect and examine data about how constructivist problem-based learning facilitated higher level thinking, contributed to an increased interest in art content, and affected attitude toward on-line learning. Data was aggregated and analyzed as summarized in Figure 1:

RESEARCH QUESTION	DATA COLLECTION METHOD USED TO ANALYZE QUESTION	ANALYSIS OF DATA
1. How can constructivist problem-based learning facilitate the higher level thinking required in philosophical aesthetics and interpretation in art criticism in an on-line undergraduate course?	Individual interviews, researcher's field notes journal, participant reflective journal, early & final critical writing assignments, Major Problem Assignment, On-line Discussions	categorical aggregation, direct interpretation, establishing patterns, naturalistic generalizations, description
2. How does a constructivist teaching approach using problem-based activities contribute to an increased interest in art content with undergraduates enrolled in an on-line art aesthetics and criticism course?	Individual interviews, researcher's field notes journal, participant reflective journal, final surveys	Notation of evidence of increased interest in art, compilation, description; aggregation of survey answers
3. How does a constructivist teaching approach and problem-based activities affect attitude toward on-line learning in an art aesthetics and criticism course?	Individual interviews, researcher's field notes journal, participant reflective journal, final surveys	Notation, compilation, and categorization of evidence of attitude toward on-line; aggregation of survey answers

Figure 1: Research Questions, Data Collection & Analysis Methods

Research Design

Since this study sought to understand how constructivist problem-solving facilitated higher level thinking and affected students' interest and attitudes toward art and on-line learning, a qualitative method seemed to provide an appropriate research methodology. According to Eisner (1991), qualitative research is the search for qualities that characterize our existence. Similarly, Merriam (2002) states that "the key to understanding qualitative research lies with the idea that meaning is socially constructed by individuals in interaction with their world" (p. 3). Sherman and Webb (1990) said, "Qualitative research has the aim of understanding experience as nearly as possible as its participants feel or live it" (p. 7).

Qualitative research in education has its roots in the social sciences, the humanities, and interdisciplinary studies and incorporates numerous research strategies from grounded theory to case study, to methods of historical, biographical, ethnographical and clinical action research. (Bogdan & Biklen, 1998; Denzin & Lincoln, 1998; Gall, Borg, & Gall, 1996; Merriam, 1998, 2002; Stockrocki, 1997). Within sociology, a number of sources (Marshall & Rossman, 1999; Patton, 1990; Kamberelis & Dimitriadis, 2005) identify *symbolic interactionism* as one of a number of qualitative methods used to study complex social phenomenon. Symbolic interactionism draws heavily on linguistics and gathers data about verbal and non-verbal interactions in which individuals interpret situations and act in tandem with other individuals' actions and social behavior (Marshall & Rossman, 1999). This social psychological approach places great emphasis on the importance of meaning and interpretation as an essential human process (Patton, 1990). Because this research study relied upon written and verbal communication from participants to understand and interpret how they utilized higher order thinking to solve problems individually and collaboratively and how that experience affected

their interest in art and attitude toward on-line learning, symbolic interactionism underpinned the analyzing of data.

Understanding perceptive and contextual meanings of participants' personal experiences would have been difficult using the quantitative measure (Creswell, 1998; Merriam, 1998). On the other hand, the qualitative process involves the researcher's experiences and understanding of what the subjects convey—not in anticipation of the discovery of a truth, but rather in finding meaning that adds to the body of knowledge about effective learning and teaching strategies. A qualitative design was well-suited to this study because it examined the effects of problem-based learning (PBL) and constructivist learning strategy upon students' thinking and upon their perceptions of art and on-line classes.

Questions often arise within qualitative research concerning validity, reliability, and generalizability of the findings. Validity in a quantitative research paradigm maintains a psychometric dimension and is a matter of knowledge generation by finding the right test to apply to the research questions (Wolcott, 1990). In qualitative research, Wolcott (1990) said that validity can be addressed by listening to the participant's voices, asking probing and clarifying questions, and refraining from prompting participant responses. When a researcher poses a question, she must be prepared for many different answers (Wolcott, 1990). The research questions for this study relied on understanding student reactions and attitudes as well as examining the products of their learning experience and their perceptions of cognitive growth. In this research study, collecting and comparing different data sources led to answers and also provided a means toward establishing validity. Keeping in mind that validity can be achieved through triangulation, this study sought answers to the research questions from multiple data sources. Categorizing data that applied to each research question, comparing data

from different participants, and drawing inferences and understanding from emerging themes and patterns interpreted from the data provided multiple sources for triangulation. In turn, these methods yielded understanding from the participants' reactions, perceptions, and attitudes that constituted a valid conclusion or finding for answering the research questions.

Case Study Research Methodology

This case study sought to understand the effects of a constructivist PBL environment upon the higher-order thinking of seven study subjects as well as how it affected their interest in art content or their attitude toward on-line learning. Case study, which is a form of social science research, is the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over the events, and when the focus is on a contemporary phenomenon within some real-life context" (Yin, 1989, p. 13). Stake (1988) explains case study as a search for understanding that has "the opportunity to go much further than most research to pursue complex, situational themes to the limits of human understanding" (p. 410). This study was conducted within the bounded and finite context of students enrolled in an art aesthetics and criticism class in the fall 2006 semester at a regional state university. In particular, the study focused upon specific assignments and interviews to gain insight and understanding of the critical thinking of seven participants in application of course content to solve problem assignments, particularly the Major Project Assignment (MPA) (see Appendix I). The researcher functioned as the main instrument, relying on group and individual conversations and individual structured interviews to interpret the information as understood. A primary concern in qualitative research is that the researcher brings his/her own attitudes, values, and prejudices to the study. Stake (1988) views this as a positive and states:

> Different researchers have different questions to answer, different conceptualizations of the situation, and set different boundaries for the case. . . . Not only does the researcher ultimately define the study but regularly enters into the life space of the case in such a vigorous way that the research becomes an interaction between researcher and case. (p. 406)

This research study focused upon the life space of the seven participants in order to analyze and interpret data inductively, not in search for data to disprove or prove hypotheses but to rather to build the abstractions as the particulars were gathered and grouped.

Secondly, a case study is descriptive and employs what Stake (1988) identifies as thick description that "reveals the perceptions and values of the people who belong to the case" (p. 404). Descriptive data within qualitative research demands that the study "be examined with the assumption that nothing is trivial, that everything has the potential of being a clue that might unlock a more comprehensive understanding of what is being studied" (Bogdan & Biklen., 1998, p. 6). By using multiple sources of data, this research utilized thick description of the study participants' thinking and perceptions of this particular course, of art, and of on-line courses, striving to use detailed narrative to shed light on participants' perspectives and perceptions.

Throughout this study, changing events shaped how the study progressed and required close attention to every interaction with participants, whether it was in oral or e-mail conversation, writings, or group discussions. Similar to most qualitative research, this case study utilized two highly-structured interviews as major source of data. Because the instructor of this course was also the researcher in the case study, power/grade issues could impact data. In order to alleviate power/grade issues, establishing a comfortable non-threatening atmosphere was crucial in making the respondents comfortable and forthcoming with information.

Sources of Data

The participants in the study were seven female students at a regional university enrolled in the undergraduate course, Issues in Aesthetics and Criticism, during the fall semester of 2006. Initially, 22 students enrolled in the course; six dropped during the first week after viewing the course syllabus (see Appendix B) and tentative course schedule (see Appendix C). Of the remaining 16 students, four were male and 12 were female. Two females and one male dropped after six weeks in the course, presumably because they had not completed most of the assignments and were failing at that time.

Prior to beginning the study, in order to conduct this study with human subjects, the necessary permission was obtained from the Institutional Review Boards of both the university site for the study and the researcher's degree-granting institution. Upon approval, participants were selected from students enrolled in the course, Issues in Aesthetics and Criticism in fall, 2006. Additionally, approval was given for access to student transcripts in order to ascertain overall grade point average, and total college credit hours, which were part of selection criteria (see Appendix F). Both institutions granted permission at mid-term of fall 2006 and the study was immediately begun.

A purposeful sampling strategy identified seven participants for the case study based upon the following criteria:

1. Enrolled in ART 3083 Issues in Aesthetics and Criticism for fall, 2006
2. Demonstrated dedication and regular *thoughtful* participation in assigned activities (defined as participation and completion of assignments that paid attention to the objectives and requirements of the assignment and demonstrated self-motivation and individual thinking and support of opinions)
3. Completion of fifty total credit hours
4. Maintained a 2.5 overall grade point average

The reasoning behind establishment of this criteria was that since the course was upper-level and on-line, students should have established some experience and success in taking college coursework. The selection criteria helped to select those who were most likely to manifest the phenomenon under study. The idea behind purposeful sampling in case study is to generate criterion for study subjects that will yield information rich cases (Patton, 1990). Because this study sought how PBL and constructivist learning environment affected critical thinking and student perceptions, it was important that study participants demonstrated evidence of being motivated to succeed in the course. The following chart summarizes demographic characteristics of the case study participants:

PART. & GROUP	AGE	MAR. STATUS	ETHNICITY	GENDER	MAJOR	G.P.A.	CREDIT HOURS	ART COURSES TAKEN
Rachel Group 1	21	Single	Caucasian	Female	Graphic Design	3.81	85	7 studio 1 art history
Mandy Group 1	50	Married	Caucasian	Female	General Studies	2.53*	122	10 studio 3 art history
Becky Group 1	25	Single	Caucasian	Female	Chemistry	2.5	52	High School
Nicole Group 2	23	Single	Caucasian	Female	Graphic Design	3.69	87 Assoc. Degree	7 studio 1 art history
Connie Group 2	36	Married	Caucasian	Female	General Studies	3.31*	105 Assoc. Degree	None
Morgan Group 2	22	Married	Caucasian	Female	Art	3.2	95	8 studio 1 art history
Brandy Group 3	20	Single	Caucasian / Native Amer.	Female	Art	3.27	56	3 studio 1 art history

*These students had previous college work over ten years old that caused a lower GPA; only the last ten years were figured for GPA criteria of this study

Figure 2: Demographic Profile of Participants

All potential study participants enrolled in Issues in Aesthetics and Criticism in fall 2006 were first contacted by e-mail (see Appendix E) October 23, 2006, asking if they would consent to be a part of the case study group. The e-mail stated that research would be conducted using part of this class and that participation would in no way affect the content or change the way the class was conducted. Students were assured that identity confidentiality would be strictly observed and their responses or to participate in the case study would in no way affect grades. In all cases, names were changed to protect the anonymity of informants. Demographic qualities in this study were fairly consistent and are summarized in Figure 2. More detailed descriptions of participants can be found in Appendix O.

A major consideration in case study is gaining access to the study subjects and establishing rapport with participants. Because the researcher was also the instructor of the course, gaining access was not problematic. However, establishing trust was vital to maintaining meaningful interaction between the students and the instructor/researcher. Palloff & Pratt (2001) list several key areas important to an on-line course:

> ensuring access to and familiarity with the technology in use; establishing guidelines and procedures that are relatively loose and free-flowing and generated with significant input from participants; striving to achieve maximum participation and 'buy-in' from participants; promoting collaborative learning; and creating a triple loop in the learning process to enable participants to reflect on their learning, themselves as learners, and the learning process. (p. 26)

Using keys to success outlined in Palloff & Pratt (2001) text *Lessons from the Cyberspace Classroom: The Realities of On-line Teaching*, was foundational to the course used for this case study research.

Methods of Data Collection

Figure 3 following lists data collection tools used in the study for informing participant

selection and for data to answer the three research questions. These various tools listed and described in Figure 3 were used in this case study to understand what Stockrocki (1997) calls "a search for an understanding of an idiosyncratic, complex case" (p. 35). Data for this study were collected from the last week of October, 2006 to the third week of January, 2007. The transcripts and beginning course survey was a source of information about the case study subjects; the reflective journals were connected to the Major Project Assignment and examined for evidence of critical thinking; transcripts of on-line discussions were examined for evidence of critical thinking and Blackboard® data collection facilities were used for gathering statistical information concerning the beginning, final course survey, and final art survey. The discussion of the method of collecting data from the tools listed in Figure 3 follows the figure table.

DATA COLLECTION TOOLS	DESCRIPTION
TRANSCRIPT	Used to ascertain GPA and total credit hours on each case study member, # of art courses taken (part of selection criteria),
BEGINNING COURSE SURVEY	Anonymous, collected as part of enrollment; includes demographic information, art & computer background, (see Appendix D)
REFLECTIVE WRITING JOURNAL	Class Assignment connected to Major Problem Assignment, utilized for understanding student perspective on this large individual and collaborative assignment (see Appendix J)
INTERVIEWS	Two semi-structured interviews, 1.5 - 2 hours each, conducted with each of the 7 case study students about student perception of the course, course strategies, on-line interface, assignments, or instructor/researcher (see Appendix K)
TRANSCRIPT OF ON-LINE DISCUSSIONS	Used as a source of reflective learning or example of successes/problems in constructivist methods and strategies
MAJOR PROBLEM ASSIGNMENT	Used as a source from which interview information was drawn for evidence of critical thinking (see Appendix I)
AN EARLY & FINAL CRITICAL WRITING ASSIGNMENTS	Used as source for evidence of critical thinking (see Appendix H)
BLACKBOARD DATA COLLECTION FACILITIES	Data compiling survey statistics
FIELD NOTES JOURNAL	Researcher's, reflective observations & insights concerning daily class activities, case study group interviews and surveys, and personal communication with case study participants
COURSE SURVEY & ART KNOWLEDGE SURVEY	Collected anonymously from all students. One survey assesses the course & instructor. Second assesses student perceptions of learning and attitudes toward art; (see Appendix L & M).

Figure 3: Data Collection Tools

Interviews

During the last seven weeks of the fall 2006 semester, two highly structured interviews were conducted with each of the seven participants (see Appendix K): one immediately following case study group selection after mid-semester and the second after the major problem collaborative assignment (Part 2) was submitted the last week of the semester. These interviews were arranged by the participant's preference of a FTF visit, e-mail, phone, or document attachment to e-mail. Interviews were a major source of data for research questions concerning student background, opinions, and perceptions of their own learning experiences. Each interview lasted approximately one-and-one-half to two hours. Because positive interaction and rapport in the interviews was important for gathering meaningful research data, FTF interviews were conducted with each participant at least once. One Interview 1 was e-mailed and the others were conducted FTF. Four Interview 2 responses were received by e-mail; the three remaining second interviews were conducted FTF in the instructor/researcher's office.

Personal interviews were not taped in an effort to create a relaxed and friendly atmosphere conducive to sharing information. Each question was read aloud and participant answers were hand-recorded in short hand notes during each in-person interview. In past experience with a pilot study unconnected to this research, taping interviews caused students to be apprehensive and tense. Therefore, rather than tape the interview conversations, shorthand notes were recorded as students talked, with requests for repetition or clarification of information. To insure that information was correctly recorded, each participant then reviewed her typed transcribed interview sheets for accuracy. The purpose was to create a relaxed atmosphere while still insuring understanding and accuracy in quoted statements. Even at this point, the impressions and comments were entered in the research field notes journal. Some

additional questions were answered through e-mail. All interviews were completed between October 31 and December 20, 2006.

Outside Class Communication, Surveys & Reflection Journals

In addition, this case study utilized information from the beginning and final two course surveys (see Appendices L and M), which were administrated as part of the course. Other varied data such as e-mail, on-line class-interaction, phone, or personal visit to the instructor provided sources for triangulation of data and thick description. In conjunction with the MPA, a reflection journal assignment was also given with specific directions and a rubric for assessment (see Appendix J) to encourage students to use the journal for positive growth and reflection rather than for complaints. Because of the on-line requirement of the course, students were instructed to complete their journal entries in a word processing document for later submission via e-mail file attachment. This reflection journal added data to interview information concerning student perceptions and opinions about their learning and about the problem-based nature of the MPA.

Of the seven case-study participants, the four art majors knew the instructor or had taken courses from her previously but they did not know each other by name before this class. Before the course, none of the non-art majors knew anyone enrolled in the course or knew the instructor other than by word-of-mouth. The instructor encouraged questions via e-mail, phone, or in-person. Two of the four art majors came by the instructor's office often after the first few weeks to comment or ask questions. After the MPA was assigned, those visits increased to at least weekly; three other participants made at least one personal office visit other than the interview during the group MPA; and the remaining participants e-mailed and phoned with questions or clarification (as did other regular class members).

Researcher Observations and Thoughts

The instructor/researcher served as a more removed observer of class activities, although at times she participated actively in discussion groups. In recording observations, she sought to be reflective and to include impressions and intuitions that might expand meaning and/or be important to data collection and analysis. In connection to this awareness, Stake (1995) states:

> The case researcher recognizes and substantiates new meanings. Whoever is a researcher has recognized a problem, a puzzlement, and studies it, hoping to connect it better with known things. Findings new connections, the researcher finds ways to make them comprehensible to others. Research is not just the domain of scientists, it is the domain of crafts persons and artists as well, all who would study and interpret. (p. 97)

Observations were recorded immediately in the researcher's field notes journal following a meaningful interaction, event, or insight. Interactions with participants on-line or by e-mail were filed for later reference. Phone calls or in-person visits relating to the study were recorded in the researcher's field notes journal along with dated reflective thoughts about students, assignments, and the course.

Methods of Data Analysis

> Analysis begins with the first interview, the first observation, the first document read. Emerging insights, hunches, and tentative hypotheses direct the next phase of data collection. . . . It is the process throughout which the investigator is concerned with producing believable and trustworthy findings. (Merriam, 1988, pp. 119-120)

Analyzing qualitative data follows no definitive path (Bogdan & Biklen, 1998; Creswell, 1998; Eisner, 1991, 1993, 2003; May & Diket, 1997; Marshall & Rossman, 1999); Merriam, 1998, 2002; Miles & Huberman, 1994; Stake, 1995, 1997; Stockrocki, 1997). The process of analyzing data is a perplexing and monumental task for qualitative researchers in that they must sort, interpret, and make sense out of the collected materials. For those who have never

undertaken it, analysis can seem overwhelming, something one can avoid at first by remaining in the field collecting data when that period should have ended (Bogdan & Biklen, 1998).

Beginning Course Survey (see Appendix D) results revealed that the enrolled students possessed adequate computer skills for the course. The first data collected came from student transcripts in order to select participants. Participants' level of participation in the course was assessed from the following: consistent in submission of assignments; demonstration of care and effort to provide a substantiated response to problem assignments; and thoughtful participation in on-line class discussions. Because this was a small class, at times selecting participants caused some concern; however, by the time selection was made, reasonable confidence existed that all case study members reflected the selection criteria (see Appendix F).

Data collection and analysis were to some degree concurrent in this study as recommended by Bogdan & Biklen (1998), which was evident in the researcher's field notes journal. Data was read and reviewed as it came in; however, the bulk of analysis occurred when all the data was gathered. Drawing upon the analytic and interpretation process of case study recommended by Stake (1995), the data analysis process followed these steps: categorical aggregation (collection of instances), direct interpretation (looking for issue-relevant meanings), establishing patterns (correspondence between two or more categories), naturalistic generalizations (generalizations that can be learned from the case), and finally description (a detailed view of aspects about the case). In large, the process can be generally visualized using the Data Analysis Spiral advocated by Creswell (1998).

In addition, Stake (1995) makes a distinction in case studies as either *intrinsic*, in which we are interested in understanding the particular case, and case as *instrumental*, in which the case study is to gain understanding of a "puzzlement, a need for general understanding" (Stake, 1995,

p. 3). This case study was instrumental in that the data was gathered to concentrate on relationships identified in the research questions. The research began with categorical aggregation of the data but also to employed direct interpretation and narrative description.

All data were printed and placed in expanding folder files, including student profiles, interview transcripts, surveys, student reflective journals, e-mail correspondence, researcher's field notes journal, MPA group and individual proposals. To begin reduction and conclusions within thematic categories of similarity and uniqueness, interview data was organized into tables containing each question followed by responses from each participant. To maintain focus, research questions were revisited often. Initially, data was sorted under main categories indicated by the research questions: higher level thinking; attitude towards art content; and attitude towards on-line learning. The research process remained open to idiosyncratic and unique data as it was collected and sorted with notations searching for emerging themes. Visual devices, such as diagrams, graphs, tables, matrices have been employed when appropriate.

Directly following data collection and sorting codes or categories were sought for possible congruent or opposing themes arising from student responses that could lead to meaningful answers to the research questions and to implications and questions for further study. The research field notes were reviewed regularly and cross-referenced to student-generated documents to aid in interpretation of all data gathered from students. Connections, concepts, and analogies provided ways to make meaning of the data within the three main categories delineated by the research questions. The process of viewing different data from various angles provided triangulation for understanding and interpreting the data. Table charts were used to organize all participants' interview responses to each interview question. This organized interview data for easier retrieval.

In selecting a process to analyze evidence of higher order thinking in data collection sources, a number of sources that discussed critical thinking were considered. Huitt (1998) identified contributions to our contemplation about critical thinking that originate from three areas: (a) cognitive psychology, which delineates the set of operations and procedures involved in critical thinking; (b) behavioral psychology, which establishes operational definitions; and (c) philosophy, such as contributions by Richard Paul, who defined critical thinking as a process of thinking to a set of standards. The writings on critical thinking by Paul provided a structure that included values and dispositions that lead to metacognition. Therefore, the elaborated definition of critical thinking and intellectual standards for thinking by Paul & Elder (2006) was chosen as a foundation for the creation of the MPA and also for the formation of categories for analyzing data in regard to critical thinking. The specific division of standards, elements, and intellectual traits as listed in Figures 4 offered a framework from which analysis could be executed. The research also referenced the higher order thinking skills of analysis, evaluation and synthesis (Bloom et al., 1956) in regard to data, because these skills summarized some of the standards and elements of critical thinking characteristics of Paul & Elder (2006).

Using the data analysis method described previously involved certain assumptions: (a) that use of Paul & Elder's standards, elements, and intellectual traits accurately identified critical thinking on the part of participants; (b) that inferences made by the researcher were accurate and unbiased; and (c) that problem-based assignments used for data collection generated critical thinking. The data produced by participants were analyzed using terms listed in the standards, the elements, and intellectual traits by Paul & Elder (2006) and formed the basis of development of categories by which to answer Research Question 1: How can constructivist PBL facilitate the higher level thinking required in philosophical aesthetics and interpretation in art criticism in an

on-line undergraduate course? In searching for evidence of higher-level thinking, terms listed in these standards, elements, and intellectual traits were noted beside occurrence of traits found in interview transcripts, the reflection journals, the MPA, and selected early and final critical writing assignments, as well as discussion group transcripts (see Figure 5). Four categories were created in which to watch for key concepts suggested by terms listed in the standards, elements and intellectual traits found in Paul & Elder's (2006) Critical Thinking Attributes and Intellectual Standards: (a) purposeful thinking; (b) consistency of thinking; (c) individual construction of thinking; (d) application of criteria and standards to thinking. Evidence for the categories was then assessed using a rating scale of 0-3.9 for not observed, minimally observed, moderately observed, and strongly observed.

In addition, when several notations together indicated any of the top three levels of thinking found in Bloom's taxonomy (Bloom et al., 1956), analysis, synthesis, and/or evaluation was additionally listed. Reasoning behind noting these top three levels was that higher thinking levels involve both creative and critical thinking. For example, Huitt (1992) classified techniques used in problem-solving and decision-making in two groups roughly corresponding to the critical/creative dichotomy. Huitt (1998) also identified evaluation as related to critical thinking and synthesis as more equivalent to creative thinking, while evaluation and synthesis both involve some sort of analysis. Analysis, evaluation, and synthesis can overlap in both critical and/or creative thinking. For this reason, using both Bloom's higher order thinking levels and Paul & Elder's critical thinking characteristics created a more reliable analysis of data.

CHAPTER 4

RESULTS AND DISCUSSION

The data sources used to answer the research questions were two highly-structured subject interviews, the major project assignment (MPA), participants' MPA reflective journals, the researcher's field notes journal, a beginning survey, a final course survey, an art course survey, and one early and one final critical writing assignment. Data in the interviews was compiled in table charts that listed the questions followed by each subject's answer in corresponding columns. Data in the reflective journals and MPA solutions were categorized first in relation to the three research questions using labels of higher order thinking, interest in art, and attitude toward online courses. Results were triangulated by looking for these three topic labels in different data sources so that conclusions did not come from one single source. Indications of critical thinking were organized using Paul & Elder's (2006) intellectual standards and elements of reasoning (see Figure 5) and the Bloom et al.'s (1956) higher order thinking skills of analysis, evaluation, and synthesis. The sub-heading themes used in this chapter emerged from this method.

The first section following discusses information from the beginning survey to give an over-view of the students in the class and their on-line experience. The participants' reflection journals for the MPA are discussed in the second section because findings indicated that not all of these journals evidenced strong sources indicating metacognition or depth of critical thinking skills. However, they were important as a preparation and as a way of engaging in self-talk (as in a diary) for solving the MPA. For example, participants would ask questions such as, "How do I start this?" or "It's going to be hard to justify;" or "I'm starting to worry." In these journals, participants also discussed frustrations and asked questions; in this way the MPA reflection

journals did serve as a foundation for problem solution and were a first step towards critical thinking. In the third through fifth sections, results of data analysis are discussed under the main headings of the three research study questions. Data was collected and analyzed from tools listed previously and then organized as it pertained to these research questions.

Beginning Survey Results

In reviewing the beginning survey, which assessed course and on-line readiness, all class members reported to have basic computer skills and all but one had taken on-line courses before. One hundred percent enjoyed learning new technology skills and answered affirmative to all questions concerning computer tasks except pasting text from a word processor document into an e-mail message: 92% could complete this task and 8% could not. Ninety-two percent of students responded that they could stay on task without direct supervision. When answering why they took this class, 67% of the students took it because it was required for their major; 25% took it for upper-level elective credit; 8% took it for personal interest. Between 61.5 and 77% of the students responded that: (a) they usually understood written instructions, (b) they learned best from reading the text and assignments, and (c) could prioritize their workload and assess their own progress. When asked how much time students anticipated spending each week in this class, 23% responded three to four hours per week, 30% responded five to six hours per week, and 46% responded more than six hours per week. Because all four of the art majors in the study had heard about the course and instructor before, the conclusion was that most likely these respondents expected the greater time to be spent.

MPA Reflection Journals

Most of the participants' MPA reflection journals did not contain substantial and consistent data that gave examples of strong critical thinking as a result of the MPA or group collaboration. However, the reflection journals did serve an important purpose in facilitating problem-solving by providing an outlet for conscious thinking and planning toward a solution. Instructions on the Reflection Journal Assignment (see Appendix J) read:

> Date each entry and then just type your reflection about what you did, saw, thought, or decided. Begin by reading the whole assignment--both individual Part 1 and Collaborative Part 2. Then write your thoughts--even worries--followed by a list of what you will do to begin. This assignment will be graded on the quality of the reflections and conscientious inclusion of discussion about how you go about thinking to solve and complete this problem. It is OK to include frustrations, but it is not a venue to just complain. It is meant to help you critically think and solve this problem. (personal communication, October 25, 2006)

In the beginning, some study participants expressed feeling excited and challenged while others expressed frustration. For example, Becky had trouble finding reputable resources and wrote:

> This assignment is really hard for me, because a lot of it you have to come up with your own stuff. I'm not a very creative person and this takes a lot of me. Hopefully I should be able to finish this within the next few days. (personal communication, November 11, 2006)
>
> It's getting really hard to find pieces of artwork. I see something I like but half the time it doesn't give you a description of it or even anything about it. It gets kind of frustrating. (personal communication, November 13, 2006)

In contrast, Rachel's initial entries began by reflecting on past art experience and exhibited some purposeful thinking and planning, and gathering information. She initiated the beginnings of imposing criteria and standards about which artworks were worthy of museum purchase as evidenced in the following entries:

> To start this assignment I have been thinking on what exactly what type of artwork I will be considering for the first part of the assignment. There has not been a lot of discussion about American artists in two many of my classes, as we tend to focus on the popular

> European paintings from the past so I think that for this assignment I will research and work on finding some American artists. (personal communication, November 5, 2006)
>
> I have been working on my individual assignment and I will admit that it is hard to find artists who I think are well known enough to be found in a museum. When you are looking on the internet there is no real way to judge how things are really effected [sic] in real life unless you look past what you are actually looking for to see how much information there really is available out there. (personal communication, November 13, 2006).

In a similar manner, Brandy's problem solving skills also began by first reflecting upon her past experience and then searching for criteria that made an art museum successful:

> I've looked up a few art museums online, which I have actually done for some reports that I've written in the past, but I really don't remember paying particularly all that much attention to the museum itself, but more to the art they had on hand. . . . I guess a museum needs to speak a little for itself, and let the art be the dessert, but I really don't know. I do, however, know that I don't remember the name of a single site I looked at, but I can remember each painting as if I looked at it only a moment ago, so I think I'll take this theory a little further. The photos of the museums with crazy architecture always stick in your mind, so maybe that should be a must for all museums. (personal communication, November 4, 2006)

From a different angle, Nicole's reflection journal revealed her initial thinking strategies by use of questioning:

> Why is Native American art dominant in our museum? Are Native Americans the dominant ethnic group in the city? What ethnicity is dominant if not? Would it even matter if we tried to target a certain ethnic group by displaying art from their culture? What exactly is the target group we are focusing on? (personal communication, October 27, 2006) . . .What exactly is the plan for promotion of our museum? I'm not sure exactly what types of art I should purchase. What is my immediate goal with this museum? Is it just to get a large number of people coming in?? I am hoping that people will come to learn about art and that the museum and the works inside are not just commercialized to solely make profit. (personal communication, October 28, 2006)

The reflection journals were largely diaries of activities and recording of research in completing the MPA that revolved around choosing the focus and the artworks for the museum. The journals did serve as an outlet for *thinking aloud* to oneself and in that way, helped students to verbalize their thoughts and organize their plan of action. None of the participants' reflection

journals exhibited examples of metacognition. Some exhibited the beginnings of critical thought in that they questioned, sought information and clarity, and used the journal as a self-talk organizational tool. The reflection journals of Nicole, Brandy, and Rachel did demonstrate beginning attempts to establish criteria and significance.

Once group collaboration progressed, every participant ended up using the diary as a venting outlet for their frustrations for the Part 2 solution of the MPA. The venting served as an outlet to relieve tension but did not serve to advance critical thinking or enhance the group's solution of the MPA.

Research Question 1

How can constructivist problem-based learning facilitate the higher level thinking required in philosophical aesthetics and interpretation in art criticism in an on-line undergraduate course?

Findings for research question one were compiled primarily from the MPA, the early and final critical writing assignment, the interviews, the MPA reflection journal, and the researcher's field notes journal. Under question one, findings are reported under sub-sections of higher order critical thinking: (a) applying intellectual standards to thinking; (b) critical thinking analysis results; (c) critical thinking and critical analysis of artwork*;* (d) and the social dimension.

Applying Intellectual Standards to Thinking

Paul and Elder's (2006) Standards, Elements and Intellectual Traits of Critical Thinking served as guides for identifying critical thinking in data (see Figures 5). An elaborated definition by Paul & Elder (2006) summarizes these standards, elements, and intellectual traits by defining

critical thinking as a unique purposeful thinking in any subject area or topic, whether academic or practical in which the thinker:

- Systematically and habitually displays intellectual traits such as intellectual perseverance, intellectual humility, intellectual empathy, and fair mindedness
- Takes charge of the construction of thinking with awareness of its elements, such as question at issue, information, concepts, inferences, assumptions, implications, and point of view
- Imposing criteria and intellectual standards of thinking such as clarity, accuracy, precision, relevance, depth, breadth, logic, and fairness
- Continually improving the quality of thinking making it more clear, accurate, and precise; with greater depth and breadth; more logical, more relevant and significant, and more fair (p. *xxix*)

Interview 1, conducted with all participants between October 31 and November 20, 2006, revealed a few responses exhibiting critical thinking by the above traits. The following comment from Rachel expressed to some degree what Paul and Elder (2006) term a unique kind of purposeful thinking:

> . . . taking history and theory of design in the regular classroom I tried to absorb, where in this class I'm learning more. In this class there's not as much "busy" [quote marks indicated by hand motion] work; some assignments are more challenging and require me to think awhile before turning them in. The busy work in this class is things to make sure we are doing what we need to be doing to prepare. (personal communication, November 7, 2006)

Rachel's answer about her general impression of the class illustrated a purposeful individual construction of thinking. This subject showed awareness of her thinking process and articulated that she knew when she experienced meaningful learning. Again, Rachel exhibited intellectual perseverance and purposeful thinking in the following comments:

> When I haven't been able to grasp after reading, I first called a classmate—we brainstormed; if I still can't understand then I ask the instructor. . . . . I partnered with someone who goes about learning like I do—helps me to understand. . . . I chose the partner from comments in the first group discussion—she seemed to be trying to come up with answers and was very conscientious. (personal communication, November 7, 2006)

Also reflected in her comment is the application of criteria and standards when she describes the partner she chose. When she felt the need for help, she actually sought scaffolding from a peer.

Interview 2 (conducted between November 16 and December 11, 2006), the Major Project Assignment (MPA, Part 1) and the final critical analysis written problem rendered stronger results indicating critical thinking than did other data sources. Rachel, Nicole, Brandy, and Connie exhibited the strongest critical thinking in the MPA. The ratings used to measure critical thinking in the MPA and final critical analysis were not as strong for Mandy and Becky and in the moderate range for Morgan. All three of these participants did a great deal of research, especially about the artworks and artists. Mandy said "I tried to put myself in their shoes to figure out the whys of some of their artworks," which demonstrates a beginning desire to know others' points of view (personal communication, December 10, 2006). The notation of intellectual empathy was noted by this comment. Both Mandy's and Becky's journals listed detailed research, asked questions, and illustrated breadth by seeking different points of view. Mandy's Reflection Journal showed that she had trouble in sorting through her research for information most relevant to solving Part 1 of the MPA. Her research wandered and sometimes lost focus. She tried to cover all aspects of museum operation and funding and in doing so sacrificed significance related to the problem solution. Mandy's goals varied from general to very specific and illustrate how that in her search for breadth, she lost focus and logic:

- To learn more about specific artworks and acquisitions
- Learn how to present information in a coherent and creative manner
- Work with our new curator knowing she makes decisions based on a theme
- Visit museums as a group and collaborate as a group on a frequent basis
- Have educational projects and demonstrations regularly
- Have people who would show how to do lost arts such as canning, tatting, quilting, etc

- Exposure to the contemporary works
- Various cultures could be represented
- Have routine donation and membership drives
- Target all age groups, especially families
- Check into the export-import possibilities
- Provide continual piped-in music that would be in the "easy listening" category that would appeal to most people as they view exhibits

The artworks she chose were justified by some of these goals. In choosing artworks, Mandy checked many sources for accuracy and did extensive historical research on the artworks she chose.

The solutions to the MPA also provided evidence of critical thinking. Morgan's solution to the MPA exhibited purpose and relevance in information gathering but she had more trouble deciding significance and relevance to the assignment and to choosing meaningful, relevant artworks. Her final solution to Part 1 did not evidence that she spent enough time in research and thinking about a unique solution to the problem. She said that she procrastinated starting the assignment and then said of both the individual and group portions of the MPA:

> Once we got into it I was really frustrated; when I did the individual Part I, I was at first a little confused—how long was each part supposed to be, a page or a paragraph? On the group discussion I would go back and there were more posts. I had to read & look over more comments—before I could post something would happen and I'd have to leave; others may have thought I wasn't there much because I didn't get many posts done—had to fit writing in the journal in too. . .(personal communication, December 11, 2006)

Connie's strongest evidence of critical thinking was in her MPA. Connie's other data sources indicated weak-to-mid moderate critical thinking. The instructor granted an incomplete to Connie because of family problems. She worked diligently on the Part 1 and 2 of the MPA but did not turn in the final critical analysis problem. Connie's MPA solution exhibited breadth, purpose, logic, concept-understanding, relevance, and intellectual courage. She had little to no art background and said about the MPA:

> When I did the individual Part, I started looking at artwork. I used some links I found in Blackboard and linked from here to there—initially I chose personal things I liked; then I was surprised because once I picked the works I did the individual part easily. Before I thought, What am I going to do, what am I going to do? (personal communication, November 11, 2006)

Connie exhibited a stronger use of inference, logic, points of view, and significance of research information that demonstrated intellectual autonomy, perseverance, and confidence in her reasoning. For example, she listed the following goals in her Part 1 MPA:

- Provide a variety of culturally diverse artworks to the public
- Stimulate and provoke the thoughts of our visitors
- Educate our citizens on the importance of art
- Provide a knowledgeable staff to assist visitors
- Develop a premium facility that promotes community pride (personal communication, November 22, 2006)

Her research and information on artworks and artists was logical, clear, and accurate. Her choices exhibited relevance to her proposal and she established significance to their acquisition.

In Nicole's MPA, she exhibited purposeful thinking in art by taking charge of the construction of her thinking, searching for clarity, depth and breadth in finding a solution to the problem. Nicole's response to the MPA was, "The assignment was very interesting, creative; I had never had assignment like this where it was my choice—free to do whatever. How would I present" (personal communication, December 11, 2006)? First, Nicole researched artworks and artists and then looked into curator positions. During Interview 2, visibly excited, she described her research process. In her MPA reflection journal, Nicole described her process of purposeful thinking:

> I really enjoyed that—digging into it. I called museums; called the Chicago Institute of Art. . . . I researched towns of 75,000 for museums; thought about Chicago—that lady was very nice. I settled on Evanston Illinois, the home of John Cusak; I thought we could build ads or sponsors from the birthplace of a well-known person but the group didn't like all the history so I took [it] out. The population in 2000 was 74,000; growing town, middle class, income $35-$52,000. . . . I also called California—Laguna Museum and

> Santa Monica Museum of Contemporary Art. I called the *New York Times*. A guy named Mark sent me job listings for curators. It was very fun. I felt like a journalist. (personal communication, December 11, 2006)

Nicole gave each person she called a background of the class and the project. This activity illustrated how she imposed criteria and intellectual standards to her thinking such as clarity, relevance, and logic. In choosing artworks, she decided to do her own survey and went to a local mall, selected 20 people at random, and asked each of them, "What one painting would you travel to see" (personal communication, December 11, 2006)? Eighteen out of the 20 answered *Starry Starry Night* and the remaining two answered *The Scream*, which influenced her choice of artworks to research and present for purchase in her individual proposal. Nicole's research process and innovative thinking illustrates a unique kind of purposeful thinking, conciseness, relevance, breadth, depth in her research and decision-making in solving the MPA. She systematically displayed intellectual perseverance and took charge of the construction of her thinking with awareness of the question at issue, information, implications, and point of view as listed by Paul and Elder (2006). Nicole's individual Part 1 of the Major Project Assignment exhibited the attributes listed in Paul and Elder's elaborated definition of critical thinking in that she used a unique kind of purposeful thinking in which she systematically and habitually displayed intellectual traits. She took charge of the construction of thinking, imposing criteria and intellectual standards of thinking. She demonstrated the ability to understand the breadth and implications of the assignment in acknowledging that her opinion was not enough but that it gained validity by obtaining others' points of view and outside information from qualified experts.

During the interviews, when participants were asked what research materials they consulted for the MPA, Rachel said she used the text to refresh her criteria on why a painting

was important. Nearly all the participants used the Web for museum research and links with art web pages that were listed in the Blackboard® external links resource provided by the instructor, as well as links discovered by individual research. Both Nicole and Rachel utilized standards of clarity, relevance, significance, depth, purpose, intellectual perseverance, and intellectual integrity in their research and Part 1 of the Major Project Assignment.

Critical Thinking Analysis Results

Aggregation of data sources concerning critical thinking indicate that deeper higher level thinking was used in the MPA and the Final Critical Analysis (see Figure 5). The early writing assignment showed minimal to moderate levels of critical thinking while the MPA and Final Critical Analysis indicated moderate to strong levels of critical thinking from all participants. The most likely reason for this was that students had been exposed to more course content and critical analyses at the point of completing these later assignments. Also, the MPA and final critical analysis asked for a more complicated response and required deeper thinking. In answering the interview question as to whether she had become a better critical thinker after completing the MPA and problem-based assignments, every participant responded with a definite yes answer. Following are two example responses:

> [Nicole] Oh yes, most definitely I never really thought about looking & thinking deeper—how so much more is there. Every time I see a billboard—I look for what it is really saying. I loved the class—it made you really think. (personal communication, December 11, 2006)

> [Brandy] As a critical thinker, I'm probably the worst person to have as a student. If I don't agree with something or see where it's leading, then it's difficult for me to look deeper into it - even though I know one should always try to do so, All in all, I really think this was an experience that really gave me the chance to use and "buff up" my critical thinking. (personal communication, December 15, 2006)

The previous comments by participants and analysis of critical thinking led to the research conclusion that problem-based assignments and constructivist course strategies did facilitate critical thinking in that they provided a scaffold or framework that gave direction and set an atmosphere conducive to critical thought. Of course this was in tandem with learning course content; however, comprehension is a lower level of learning while applying knowledge in a problem-based response such as the MPA and final written critical analysis demonstrates higher order cognition using analysis, synthesis, and evaluation.

To facilitate analysis of each data source, word descriptors used by Paul and Elder (2006) in their Standards, Elements and Intellectual Traits of Critical Thinking were used to identify critical thinking in participant interviews and written documents (see Figure 5). Reflection journals, interview information, the MPA, and an early, and a final writing assignment were sources used to search for critical thinking indicators. Four categories summarized key concepts suggested by terms listed in the standards, elements and intellectual traits found in Paul & Elder's (2006) Critical Thinking Attributes and Intellectual Standards: (a) purposeful thinking; (b) consistency of thinking; (c) individual construction of thinking; (d) application of criteria and standards to thinking. As these data sources were reviewed, critical thinking indicators were noted with a word descriptor from Paul and Elder's (2006) critical thinking traits. Finally, those traits were counted per document and compiled in a table. From the compiled notations, a determination was made as to whether the use of these traits constituted a minimal, moderate or strong occurrence by the considering the consistent use of critical thinking characteristics as listed in the following rubric:

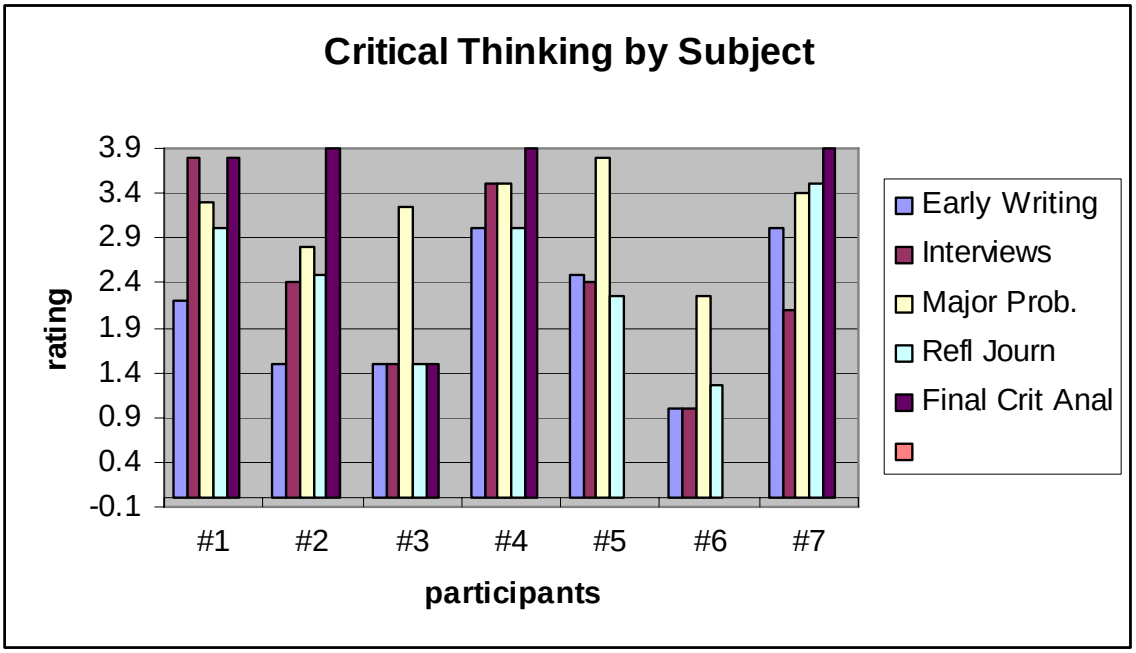
0-.9 rating: no evidence or negligible evidence of Paul & Elder's standards, elements, and intellectual traits
1-1.9 rating: minimally exhibits/applies intellectual standards from Paul & Elder's standards, elements and intellectual traits by any of the following: ▪ inadequately describing the evidence, background, research, or information ▪ ignoring or superficially evaluating alternative points of view ▪ maintaining or defending views based on self-interest or preconceptions providing little or no evaluation of information
2-2.9 rating: moderately exhibits/applies intellectual standards from Paul & Elder's standards, elements and intellectual traits by any of the following: ▪ adequately introducing and describing evidence, research, and information ▪ providing a limited evaluation of information ▪ adequately describing the problem, but with no particular insight ▪ unevenly (accurate in some parts, inaccurate in others) interpreting relevant evidence
3-3.9 rating: strongly exhibits/applies intellectual standards from Paul & Elder's standards, elements and intellectual traits by any of the following: ▪ accurately interpreting evidence, research, and information relevant to the problem demonstrating intellectual empathy of different points of view ▪ questioning to identify assumptions, implications, and inferences ▪ justifying key results and drawing conclusions or evaluations

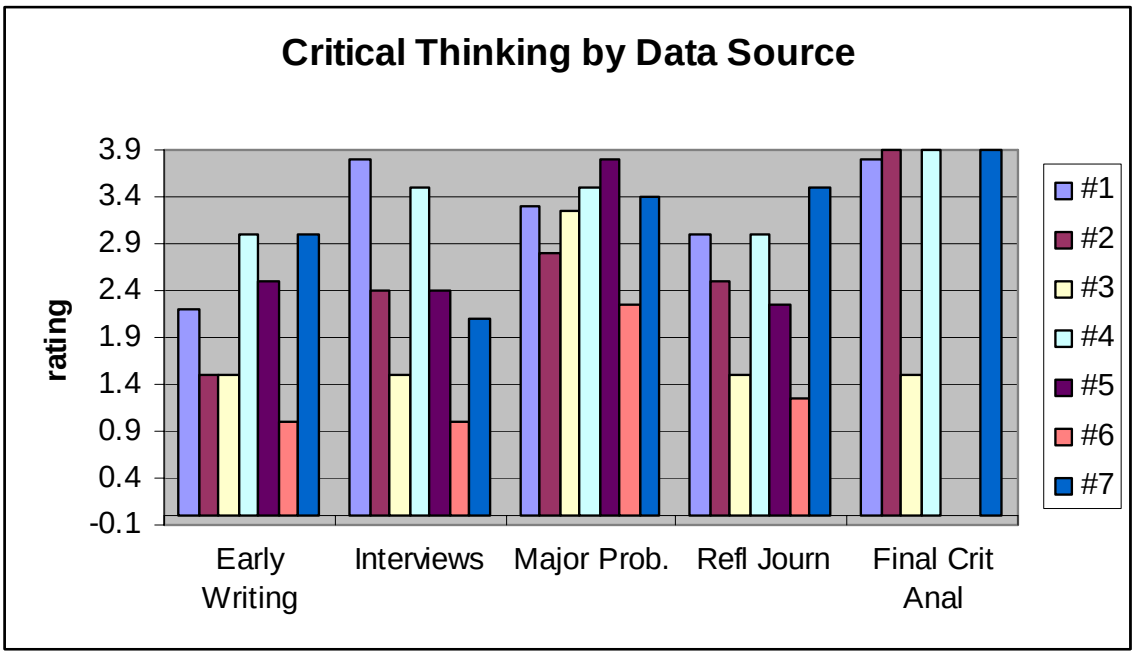
Figure 4: Critical Thinking Attributes Rubric

Using the previous rubric, final value averages were determined by applying a scale rating that considered the total number and quality of critical thinking indicators observed in each data source. This scale rating system was arbitrarily determined as follows: not observed or observed negligibly, 0 to .9; minimal occurrence and quality, 1 to 1.9; moderate occurrence and quality, 2 to 2.9; or strong occurrence and quality, 3-3.9. For example, when a student wrote about planning or thinking about planning, the notation was *purposes*; when a student evidenced research and gathering or discussing information, the notation was *information*; when a student

talked about others' opinions versus her own or liking to know the opinions of others, *points of view* was written beside that information. When it was obvious that a student was struggling with a concept and found an answer or pathway, *intellectual perseverance* was noted. *Intellectual empathy*, *intellectual integrity* or *fairness* was noted when a student attempted to understand from an opposing or differing viewpoint. By each of the word notations, a + was noted for moderate exhibition of critical thinking, ++ for strong critical thinking. These notations were rated and recorded in a chart , and averaged to achieve a composite rating of over-all use of the Standards, Elements, and Intellectual Traits listed by Paul & Elder (2006) (see Figure 5).

Group discussion transcripts were also reviewed but did not evidence substantial critical thinking. Students in this class tended to treat group discussions as chat rooms similar to those on Internet sites for friend groups. They exchanged information, ask and gave advice, but did not tend to strongly exhibit higher order thinking in comments.





**Explanation for missing ratings #5 and #6 on Final Critical Analysis: Results for the Final Critical Analysis were not turned in for participants #5 and #6.

Figure 5: Critical Thinking Analysis by Participant & Data Source

STANDARDS	ELEMENTS
clarity, accuracy, relevance, logic, breadth, precision, significance, completeness, fairness, depth	purposes, questions, points of view, information, inferences, concepts, implications, assumptions
INTELLECTUAL TRAITS	
intellectual humility intellectual perseverance intellectual autonomy confidence in reason intellectual integrity intellectual integrity intellectual empathy intellectual courage fair-mindedness	

Data for Assessment of Research Question 1: How can constructivist problem-based learning facilitate the higher level thinking required in philosophical aesthetics and interpretation in art criticism in an on-line undergraduate course?

PARTICIPANT Document, & Categories	1-.9 Not observed	1.0-1.9 Minimal	2.0-2.9 Moderate	3.0-3.9 Strong	Example/Comment
EARLY WRITING ASSIGNMENT 1) *Purposeful thinking*			2.0		Clarity, precision, significance, depth +
2) *consistency of thinking,*			2.0		Point of view, inferences +
3) *individual construction of thinking,*		1.0			Implications, information
4) *application of criteria and standards to thinking*		1.0			Comes to opinion/conclusion, intellectual autonomy, intellectual perseverance
INTERVIEW 1 1) *Purposeful thinking*		1.5			Purposes, point of view, clarity, logic
2) *consistency of thinking,*		1.5			Points of view, concepts, information, depth
3) *individual construction of thinking,*		1.5			Concepts, questions, purposes, logic
4) *application of criteria and standards to thinking*			2.0		Intellectual courage, intellectual autonomy, confidence in reason, intellect. Perseverance +
INTERVIEW 2 1) *Purposeful thinking*				3.0	Purposes, information, concepts, inferences, logic ++
2) *consistency of thinking,*				3.0	Questions, point of view, logic clarity, concepts ++
3) *individual construction of thinking,*				3.0	Uses multiple standards and elements, likes challenge, confidence in reasoning ++

4) *application of criteria and standards to thinking*				3.5	Intellectual autonomy, integrity, courage, perseverance, empathy, fair-minded, ++
MAJOR PROBLEM ASSIGNMENT 1) *Purposeful thinking*				3.0	Uses all standards and elements ++
2) *consistency of thinking,*				3.0	Uses all standards and elements ++
3) *individual construction of thinking,*			2.5		Uses all standards and elements
4) *application of criteria and standards to thinking*			2.5		Intellect. autonomy, intellect. integrity, confidence in reason, intellect. courage, intellect. perseverance, fair mindedness EVALUATION; SYNTHESIS
REFLECTION JOURNAL 1) *Purposeful thinking*			2.5		Uses all standards and elements
2) *consistency of thinking,*			2.5		Uses all standards and elements
3) *individual construction of thinking,*			2.5		Used all standards and elements
4) *application of criteria and standards to thinking*			2.5		Intellectual integrity, perseverance
FINAL WRITTEN ASSIGNMENT 1) *Purposeful thinking*				3.9	Clarity, relevance, logic, completeness, breadth, significance, depth ++ EVALUATION
2) *consistency of thinking,*				3.9	Purposes, point of view, information, concept, inference, implication, assumption ++
3) *individual construction of thinking,*				3.9	integrity, perseverance, confidence in reason ++
4) *application of criteria and standards to thinking*				3.9	SYNTHESIS Intellectual autonomy, intellectual perseverance, intellectual empathy ++

Figure 6: Critical Thinking Assessment Tool, Participant Example; Use of Paul & Elder's (2006) Standards, Elements & Intellectual Traits

PARTICIPANT 1	Not observed, negligible 0-.9	Minimally Exhibits 1.0-1.9	Moderately Exhibits 2.0-2.9	Strongly Exhibits 3.0-3.9
Early Writing			2.2	
Interviews				3.8
Major Prob.				3.3
Refl Journ				3
Final Crit Anal				3.8
PARTICIPANT 2				
Early Writing		1.5		
Interviews			2.4	
Major Prob.			2.8	
Refl Journ			2.5	
Final Crit Anal				3.9
PARTICIPANT 3				
Early Writing		1.5		
Interviews		1.5		
Major Prob.				3.25
Refl Journ		1.5		
Final Crit Anal		1.5		
PARTICIPANT 4				
Early Writing				3
Interviews				3.5
Major Prob.				3.5
Refl Journ				3
Final Crit Anal				3.9
PARTICIPANT 5				
Early Writing			2.5	
Interviews			2.4	
Major Prob.				3.9
Refl Journ			2.25	
Final Crit Anal		Not submitted		
PARTICIPANT 6				
Early Writing		1		
Interviews		1		
Major Prob.			2.25	
Refl Journ		1.25		
Final Crit Anal		Not submitted		
PARTICIPANT 7				
Early Writing				3
Interviews			2.1	
Major Prob.				3.4
Refl Journ				3.5

Figure 7: Composite Ratings of Participants' Critical Thinking

Critical Thinking and Critical Analysis of Artwork

The final critical writing assignment asked for a denotative and connotative description and interpretation of Edward Hopper's 1940 artwork, *Office at Night,* and was guided by questions to prompt deeper thinking. Rachel, Nicole, Brandy, and Mandy (over one-half of the study participants) showed evidence of strong critical thinking on the final critical analysis of artwork. Becky's final critical analysis showed minimal critical thinking. Two participants did not submit this assignment.

One question in the final critical writing assignment asked how the piece of paper on the floor depicted in Hopper's work could relate to power. Rachel's and Brandy's responses demonstrated Paul & Elder's (2006) critical thinking standards of breadth, logic, precision, and significance; elements of inferences, points of view, and implications as they imposed criteria; and intellectual autonomy in expressing interpretations. Following are their responses:

> [Brandy] The piece of paper serves as a dividing line in power. The woman would most likely pick up the piece of paper in any situation, unless it was at a feminist meeting, because cleaning is viewed as menial and not worth a man's time. . . . Whoever picks up the paper makes it evident they are subservient to the other and relinquishes their power of free will. . . . The telephone also gives the man power . . . if you want something done call him. The window is another sign of power to the man . . . the 'window seat' of authority. (personal communication, November 16, 2006)

> [Rachel] The piece of paper is a very important item. There are several things that elude [sic] to the difference of power in the room: bigger desk, papers on the desks, the window, but the piece of paper seems to symbolize the whole of the painting. *Who* will pick it up is important because it hints at our characters [sic] role in the painting. She is the lowly secretary; he is the important businessperson, so therefore it falls on *her* to pick up the paper. (personal communication, November 16, 2006)

Rachel also viewed the role of the woman as subservient and in deciding connotation of the one smaller desk and the other larger desk in front of the window where the man sits, she wrote: "The window is situated behind the man giving him a bit more importance. . . allows him

to gaze out into the night sky . . .[for] a fresh breeze" (personal communication, November 16, 2006).

In contrast, Mandy identified possible romantic assumptions in her analysis of Hopper's work. She saw signs in the painting that applied critical thinking standards of implications or inferences: flirtation in the stance of the woman, the tightness of her dress, the whiteness of her calves positioned in a "showy way, wanting to attract his attention and yet appear subtle in the process. . . . Could she be a gold-digger? Is there a possibility of an office affair" (personal communication, November 16, 2006)? Mandy thought that the man would pick up the paper because he was lonely. In her background research, she viewed other work by Hopper and read comments concerning the loneliness or solitude he generally portrayed in his paintings. She concluded that viewers possessed power through interpretation of an artwork. Mandy utilized information, drew inference and implication in identifying these possible assumptions, and demonstrated intellectual perseverance in her point of view.

In another totally different perspective, Nicole interpreted Hopper's work as depicting temptation and drew an analogy to the Garden of Eden and how Eve tempted Adam with the apple. She wrote:

> But in this case, it's the paper that she will have to bend over in order to get—a very sexual implication. The white walls possibly suggest an [sic] innocence, so hopefully the man will keep reading his paper, pretending not to notice her. . . . Although society plays a major role in power, I think the woman holds the power in this painting. She is the one that can decide whether or not she wants to pursue the man by her sexual advances. (personal communication, November 16, 2006)

Identifying possible assumptions, Nicole said,

> It is hard to say whether or not she is the secretary or a colleague. For all we know she could be the president of a big company. Probably not, just going on an assumption. . . . It's hard to tell what the office is for. (personal communication, November 16, 2006)

Rachel, Nicole, Brandy and Mandy all demonstrated a number of intellectual traits by using analysis, synthesis, and evaluation to interpret Hopper's *Office at Night*. Each subject drew inferences, identified implications, and assessed significance through a close examination and critical inquiry of the artwork, all evidence that they applied intellectual integrity, courage, and perseverance as well as confidence in reason. All of this activity evidenced deep thinking to analyze and evaluate and then synthesize possible connotations and interpretations.

In assignments such as the final critical writing assignment, challenge in problem-solving also had potential to initiate opportunities for scaffolding through collaboration and ultimately was an important part of facilitating critical thinking. Participants' comments about this assignment exhibited a valuing of differing points of view, one of Paul and Elder's (2006) elements of critical thinking. In response to how she liked the class, Brandy said, "Discussing with peers was a saving point. The reading was limited to my own experience. Seeing from others' viewpoints was definitely an eye-opener" (personal communication, November 16, 2006). Connie also appreciated interaction with peers to see different perspectives, a trait of critical thinking. When asked if discussion with others affected the way she thought or valued art, Connie responded, "Reading other's perspectives caused me to think, 'Hmmm, I never thought about it that way'" (personal communication, December 12, 2006). Similarly, Rachel commented, "One thing really struck me was how different people's perspectives were about artworks—sometimes the opposite. . . . I re-evaluated how I communicate" (personal communication, November 7, 2006). This comment illustrates intellectual integrity, intellectual empathy, and fair-mindedness.

Participants' Perspectives of Their Critical Thinking

Participants' perspectives of their critical thinking were vital to understanding how problem-based strategy facilitated critical thinking. The constructivist assignments and facilitation placed responsibility for learning on the students. When participants indicated an increased confidence in their thinking, they became more open to accommodating and applying new information. Students' perceptions of their critical thinking contributed to their confidence and built skills to think about art topics and other topics. The final problem solutions indicated varying degrees of success but also indicated that in their attempts to assimilate the information, students accommodated new knowledge about art aesthetics and criticism content. Use of constructivist problem-solving strategies kept the students challenged and engaged in art content and generated an increased interest in art. Participants' perceptions of their critical thinking had a direct bearing on their confidence in learning about art. Increased confidence gained through success encouraged participants to put forth effort and enabled them to take risks that were part of learning.

Learning in Meaningful Ways

Problem-based assignments connected to reading assignments bridged learning in meaningful ways. Connie said, "It [problem assignments] made the reading assignments we did make sense—it allowed me to apply them" (personal communication, December 16, 2006). In addition, Connie wrote:

> I've always thought I was a good critical thinker. I see things differently now and analyze in a new way. I didn't think I would like this course because it was out of my comfort zone. I ended up liking it very much. (personal communication, December 11, 2006)

When asked during Interview 2 if they perceived themselves better critical thinkers and problem solvers after completing this course, all seven completing participants answered definitely yes. One wrote, "Yes I do. Working through these different assignments made me think more. They made me look at what was going on" (personal communication, December 18, 2006). In regard to whether her critical thinking increased as a result of this class, Nicole responded:

> Oh yes, most definitely I never really thought about looking and thinking deeper—how so much more is there. Every time I see a billboard—I look for what it is really saying. I loved the class—it made you really think. (personal communication, December 11, 2006)

Additionally, when asked in Interview 2 if the previous problem-based assignments and collaborative groups helped in the final group assignment, five of the seven participants answered definitely yes. Indication of intellectual empathy or point of view consideration of critical thinking on Mandy's response was:

> I was interested in artist's lives, tried to put myself in their shoes, figure out the "whys" of some of their work. . . . I just thought about the main things that museums have and tried to incorporate that into my individual proposal. I think the hardest part was having to find artworks. . . . Once we got into it I was really frustrated. When I did the individual Part I was at first a little confused—how long was each part supposed to be, a page or a paragraph? (personal communication, December 11, 2006)

In response to an Interview 2 question that asked if working and discussing with the group helped them to become more aware of how they thought and more conscious of assumptions and point of view, one participant emphatically agreed saying, "We had very strong opinions about our artists and artworks we chose" (personal communication, December 10, 2006). Brandy wrote:

> In discussing things with others in the group, I do feel that I had to really wrack my brains to figure out what some people were trying to convey, and at the same time take the information they were offering and form a discussable opinion on it. (personal communication, December 15, 2006)

Peers as Teachers

In the social constructivist learning atmosphere of this class, scaffolding was an important facet of learning. Some of the participants formed their own collaborative relationship to learn from one another. For example, Nicole stated, "I made an ally with another student. . . . We called each other and shared input on the Hopper assignment. She looked at it very different [sic]. After that, I went back and printed out some other assignments and theories in the book" (personal communication, December 11, 2006). After reading all four Part 1 proposals from her group and in beginning group discussion, Connie commented, "Nicole and I had a lot of the same direction and I liked ideas on some of the other proposals. Then we started posting on the discussion board. I was so excited—they liked all four of my pieces" (personal communication, December 11, 2006). Social interaction encouraged Connie and reinforced her thinking. Becky said the virtual classroom helped her when she received advice from a more computer literate peer concerning how she utilized online research to help her complete the assignments. Affirmation and help through peers and the instructor was a part of the scaffolding process in this study. It empowered students to meet the challenge of a problem individually and then to proceed through the dialogic process of social interaction to gain solutions.

Research Question 2

How does a constructivist teaching approach using problem-based activities contribute to an increased interest in art content with undergraduates enrolled in an online art aesthetics and criticism course?

In the next section, findings are related to research question two concerning how the constructivist PBL learning atmosphere in aesthetics and criticism contributed to participants'

increased interest in art. Results relating to increased interest in art were compiled and compared from the two interviews and the two final art course surveys.

Increased Interest in Art Content

Results of the final Art Course Survey (see Appendix M) strongly indicated that student interest in art increased after taking this constructivist problem-solving aesthetics and criticism in art course. In relating their past experience or coursework in art, five of the seven participants indicated a background in art; however, one of those had coursework that was over twenty years old. None of the participants had taken a philosophical course such as aesthetics and criticism. The final Art Course Survey completed by all enrolled students (see Appendix M) is summarized in the following chart:

Final Art Content Survey Question	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
Before taking this class I rarely looked beyond a quick glance at an art object.	25%	16.7%	25%	16.7%	16.7%
This class has helped me to broaden my understanding of how and why art is made.				67%	33%
I have a better understanding of different art forms and art media after taking this class.			8.3%	58.3%	33.3%
I will feel more comfortable looking at art in an exhibit now than when I started this class.			16.7%	41.7%	41.7%
After taking this class, I understand modern and abstract art better.			16.7%	41.7%	41.7%
After taking this class, I will pay more attention to the culture and society connected to the art I view.				66.7%	33.3%
After taking this class I will be more likely to pay more attention to art objects and artworks.				58.3%	41.7%
After taking this class, I will be more likely to visit art exhibitions and museums than I would have before taking this class.		8.3%	33.3%	25%	33.3%
Overall my appreciation for visual art has grown while taking this class.			16.7%	41.7%	41.7%
After taking this class, I will look beyond the surface to think about social, political, or historical connections involving the context and the artist's intent.		8.3%	16.7%	41.7%	33.3%
After taking this class, I will have more respect for what an artist is trying to say whether or not I really like the artwork or not.			8.3%	50%	41.7%

Figure 8: Final Art Survey Results

Constructivist Strategies and Increased Responsibility

Constructivist strategies in this course, which placed a greater responsibility for learning upon students and encouraged interaction with others, was a major reason for participants' increased interest in art. Constructivist strategies also created intrinsic motivation from the study participants to engage with course content. Intrinsic motivation, in turn, resulted in a sort of ownership in which participants took risks that essentially exposed them to relevant content and information. With this content, participants found tools that enabled them to think and process information more deeply, which increased their confidence and their interest in art. For example, initially in this course, comments from Interview 1 about their early impressions of the class included remarks about being apprehensive or scared because they were afraid the class was hard. In retrospection, Brandy, an art major, remarked:

> I was surprised how well it [the class] went; I was dreading it and I didn't care for the subject. Once I began the assignments, it was interesting. Discussing [assignments] with peers was a saving point because just reading the information was limited to my own experience. Seeing from others' view points was definitely an eye opener. (personal communication, December 15, 2006)

This comment gives an indication that the increased interest resulting from the assignments and discussion with others also resulted in a broadened and more informed perspective.

Increased Confidence and Appreciation

Many times, we fear what we don't know. The problem-based assignments encouraged students to actively engage with art content and in doing that, they gained confidence in their thinking in and responding to art. Deeper engagement and thinking critically resulted in a wider perspective and different ways to appreciate art. In response to an interview question about sources of discovery or satisfaction after taking the course, participants' comments included a

realization that they understood more about art than they thought they could; that they now looked at art considering its medium, culture, and content or point of view; and that artworks can convey deeper meanings. This indicates an increase in confidence that also led to a broadened and more appreciative viewpoint.

Broadened Viewpoint and Increased Awareness

In response to the question asking if the MPA caused them to see how art is valued, every subject responded affirmatively, adding that the problem assignments made them more aware of multiple viewpoints and that there are more reasons to value art than personal liking or visual pleasure. Morgan said, "In choosing artworks for a museum, you can't just choose the visually pleasing—you have to think about society as a whole, what will draw most people" (personal communication, December 11, 2006). Becky answered this question saying, "Some group members. . . saw art as merely a decoration for a home. To some extent I agree with this, but this study also helped me to recognize that fine art is something you have to learn to see" (personal communication, December 18, 2006). Nicole said, "I think about everything differently—music, advertising—I am much more aware of art as a viewer; more aware of possible ways images or ads—I'm really aware of ads selling sex—they are trying to manipulate me" (personal communication, December 11, 2006).

When asked in Interview 2 how study in this course and problem-based assignments changed their view of art or its use in society, all participants indicated their views had changed in that they were more aware of details and content; they would more closely examine visual images, whether advertising or fine art; or they would appreciate art in a new way (personal communication, December 15, 2006). Morgan stated,

> I always thought that art is to look at. You like it or you don't. Now I realize that behind every art piece there is a story, a history, a reason. This course definitely has opened me up to realizing how broad art is and how it affects society. (personal communication, December 11, 2006)

Morgan was one student who at the beginning expressed fear about taking this course, stating that she took the course only because it was required and never would have voluntarily selected it. Her comment seems to summarize the sentiments of all of the case study participants concerning their increased appreciation and interest in art.

In the final course survey (see Appendix L), 100% of enrolled students said the course assignments made them to think and gain understanding of the course content; 92% felt more knowledgeable in art and 100% said the course broadened their perspective and thinking in art. In the second structured interview, every study participant indicated an increased awareness and appreciation for art that either stated or implied they would continue an awareness and interest in art. The data indicated that the constructivist problem-solving nature of this course had the greatest influence in increasing participants' appreciation and perception of art.

Research Question 3

How does a constructivist teaching approach and problem-based activities affect attitude toward online learning in an art aesthetics and criticism course?

The final section discusses attitude towards on-line learning and the findings connected to research question three, the effects of a constructivist PBL course in aesthetics and criticism in art upon participants' attitudes toward constructivist on-line learning. Data for results in this section came from the two interviews, the final course survey, and the reflection journals. This final section discusses results under three sub-sections: (a) sense of community; (b) advantages and disadvantages of on-line learning; and (c) constructivist environment and the on-line class.

Data for answering question 3 was collected primarily in two structured interviews and in the final course survey. When ask how they felt about learning in an online class in the second interview responses were as following: "I've taken four online courses and they all have been very helpful. I will definitely be taking more online courses in the future" (personal communication, December 18, 2006). "I really enjoyed it. I learned quite a bit. I recommended to a friend to take an online class. There are several pluses: saves gas, time and energy, money, and you don't have to get out in bad weather" (personal communication, December 10, 2006). Another said, "I really liked this online course. It was very interactive and exciting" (personal communication, December 11, 2006). However, she was not sure if she would choose on-line over FTF.

Participants felt engaged with this course content and liked the class; three out of the seven said they would take more on-line courses; one recommended on-line classes to a friend (she was graduating and did not plan to take any more classes). However three of the seven did not indicate they would take another on-line course if it was also offered FTF. Findings did not indicate that this constructivist course altered participants' initial opinion of on-line classes although every subject indicated that they liked this course. Following is a table summarizing the basic data derived from interview responses:

Participant	# on-line classes before this class	Structure of previous on-line classes	Attitude toward online classes	Attitude after this class
1	3	Assignment/test	Straight out of book; boring	Challenging but learned more
2	0	NA	Nervous, didn't know what to expect	Enjoyed this class; recommended on-line to a friend
3	3	Assignment/test	Like because can say more online rather than in class	All have been helpful, will take more
4	2	Assignment/test	Like—you can go at your own pace	Really liked this class; challenging and exciting
5	1	Structured assignment, research, test	Like—would take another	Learned more in this class
6	2	Assignment/test	Like—you can go at your own pace	Liked it—will take more
7	3	Disorganized	no set assignments; teacher not very involved with learning process; rarely answered emails	Liked the class; miss FTF interaction; on-line is good for tricky schedules but not for everyone

Figure 9: Attitude Towards On-line Classes

Sense of Community

This course was the first on-line experience for one of the seven study participants. The other six had taken one or more Web-based classes before this course. In the final course survey (see Appendix L) all of the case study participants agreed or strongly agreed that they liked the course organization in Blackboard® and that the on-line site was user-friendly. One subject indicated she initially took the on-line course because she thought it would be easy because her

on-line geography class had been a "blow-off with very few assignments and a test once a month" (personal communication, November 8, 2006). Each of the four art majors expected it to be hard because they had heard about the course and the instructor's expectations. While others weren't sure what to expect because each of their on-line courses were different, one student said the following about an on-line class she had previously taken:

> For the first on-line class I took, I was not impressed at all. It lacked the focus and stability that Mrs. Beach's had. In the first class there were no set assignments and the teacher was not very involved with the learning process. She rarely answered e-mails. When she did, it was not helpful; my GPA suffered; the overall experience was very trying. (personal communication, December 15, 2006)

This comment is related to the student's perception of sense of community in the class she described. In designing this on-line course, its assignments, and the interactions of instructor-to-student and student-to-student, the instructor remained aware of the importance of creating a sense of community among students. Eighty-three percent of the enrolled students indicated discussion boards created interest in the course content, which was an indicator of the importance of the sense of community in on-line classes. The instructor in the on-line course used for this study made every effort to engage students with course content, to encourage them to become familiar with the on-line tools, and to be comfortable with asking questions and sharing viewpoints and information with each other. From this information conclusion that students felt a sense of community in this course because of the constructivist course design and facilitation efforts of the instructor.

Advantages and Disadvantages of On-line Classes

Each of the seven participants saw merit in the constructivist nature of learning in this course. Overall, data from participant communication in both structured interviews revealed that

the constructivist teaching approach and PBL activities in this art aesthetic and criticism on-line course did positively affect the students' attitudes toward art content and thus toward the on-line class; four of the seven study participants said in interviews that they would take more on-line courses.

The majority indicated the following reasons as to why they liked the on-line format: It was easy to access material or work late at night; fit individual schedules; made them less of a procrastinator because there was always something going on; and provided a comfortable environment for learning. Brandy felt more comfortable to express her opinions in the on-line classroom versus the FTF classroom and said, "I can say more in an online—in a classroom class I don't like to raise my hand—embarrassing—online I feel more comfortable to participate" (personal communication, November 16, 2006).

Disadvantages to on-line classes communicated by participants included technology issues associated with slow connection speed, loss of electrical power, and interrupted internet access. Even though Brandy liked online classes, she identified lack of written communication skills of some students as a negative factor and said:

> There is so much more to human interaction that just words, and I really feel that people miss out on that, especially if they are taking all online classes. Personally, I think online classes are a perfect supplement if one has a tricky schedule, but I don't think it should be a substitute for all classes. (personal communication, December 15, 2006)

Rachel indicated that she liked asking questions FTF for quick response and the dialogue that was possible. She did not like to wait for responses in the asynchronous on-line discussions but liked the virtual (synchronous) discussions better. Nicole said a disadvantage of on-line was not having someone to physically talk to and ask questions. Students' comments concerning their experiences in this on-line class compared to past on-line experiences led to the conclusion that

the problem-solving constructivist nature of the on-line course in this study influenced students toward a positive attitude concerning on-line classes.

The Constructivist Environment and On-line Classes

When asked about this on-line course, Rachel, a senior graphic design major participant stated:

> I had to think an awful lot in this class. It is here's the material, figure it out. In a face-to-face class, here's the material, here's the lecture, here's the homework. It is more spoon-fed. I learned more in this class than I've learned since I was a freshman. I've had other on-line classes and learned more in this one because it required you to stay focused. . . . my previous on-line [classes] were assignments, assignments, assignments, test. We worked straight out of the book, mostly busy work. (personal communication, November 7, 2006)

> Most online classes you can tweak through—this one, if you are not participating and watching you can get behind because you are not doing your part. There was a lot of work; it was hard—but what is hard?—challenging and having to learn something. (personal communication, December 11, 2006)

These statements illustrate an important point for the constructivist learning environment whether it is a FTF class or an on-line environment. Students must engage with course content and be motivated to do so. Problem-based assignments contributed to keeping participants focused, which facilitated deeper thinking and critical inquiry. Rachel's comment compared on-line and FTF classes, but really addressed teaching pedagogy rather than on-line versus FTF presentation of course material. Connie compared this class to another on-line class stating:

> I took another class—Social Gerontology online—very structured—week 1 do this, week 2 do this, test every other week, research for 2 papers—got 2 poor grades on my papers. Of the two classes I thought it was the easy class and I didn't learn much. I learned more in this class. (personal communication, December 11, 2006)

Rachel's and Connie's comments illustrate the effectiveness of a constructivist on-line design versus the lecture FTF class or the on-line class using objective tests to assess reading

comprehension. These participants' comments also illustrate the importance of the visibility of the instructor/facilitator in an on-line class through announcements, e-mail, comments on assignments, or monitoring of discussions. Responsibility for learning rests upon the shoulders of students while facilitation of learning is the responsibility of the instructor.

In the area of constructivist on-line group collaboration for the MPA, results were less than supportive of on-line learning. When asked what they would do differently if they could re-do the MPA, Becky answered, "I wouldn't want to have a group project. It just frustrated me. If we had to then I would say to try and get more involved with the group leader" (personal communication, December 18, 2006). Morgan suggested,

> Maybe specify how group could get started rather than naming a group leader. I'm the kind of person that if no one else takes a lead or start then I will; but if someone does then I'll step back and let them. (personal communication, December 11, 2006)

Comments from the Final Course Survey included the following concerning the class and group activities:

> The only negatives that I can list are the fact that group projects just don't work, whether it is in a classroom setting or online;
>
> The only negative experience I had was with my group project, my group members really didn't interact with me or other members to get it done;
>
> I really didn't like the whole group part of the class, being as it was an online course;
>
> One of the reasons people take online courses is because their schedule is too busy and they want to work at their own pace. I didn't feel like I had a lot of time to get together with my group and work. It would have been easier in a face to face class instead of an online class;
>
> The only negatives that I can list are the fact that group projects just don't work, whether it is in a classroom setting or online. (personal communication, December 15, 2006)

Every participant expressed frustration and anxiety in connection with the on-line collaborative group for combining individual proposals into one group proposal. Many students are

conditioned to be told everything by the instructor. When more decisions were left up to them in collaboration, they had trouble delegating responsibility and sharing work load. Although the instructor maintained consistent facilitation and on-line presence, she still remained unsure about when to intervene and still preserve a constructivist-based collaboration when students were working to divide tasks in the final group solution of the MPA. The groups had no trouble using on-line facilities but did not effectively communicate and share responsibility in the final collaboration. Groups did not function in a way that supported peer tutoring, resulting in anxiety and tension between students who liked to prepare assignments early and those who left things to the last minute. In addition, the group leader designation, intended to facilitate group interaction, created leader-follower mentality and was not conducive to peer tutoring and collaboration.

Participants unanimously indicated that the on-line collaboration of Part 2 of the MPA caused the greatest frustration. Some participant comments in Interview 2 were defensive because their time was limited and they realized the tension and resentment in their group; some were passive and did not know how to effectively assert their opinions; others felt over-burdened with responsibility. One said the only thing she would change about the course was to drop the collaborative Part 2 of the Major Project Assignment. Two members of Group 2 responded with constructive thoughts about how they would do things differently if they could start over. Connie stated:

> With Nicole being group leader, she put more pressure on herself. I wish that we had divided the proposal. I felt like toward the end that it was falling on Nicole. We should have taken the initiative to divide the proposal/vision part so that each part was divided and not left to her. I felt guilty at the end because she had done most of the editing wording—it was good—couldn't say anything but I like it. (personal communication, December 11, 2006)

Nicole responded to how she would change if she could start over saying:

> If given the opportunity to start all over on the group assignment, I think my main focus would be to give more detailed instructions to the group members. Instead of doing the majority of the work solo, I would be more assertive and demanding. I thought I was clear on what was expected from each member, but apparently I wasn't. I would also let everyone know that my main job was to submit the finished proposal and not to do all of their work for them. I also wish I would have included the history of our town as originally planned. I spent a lot of time putting a story together, but no one in the group thought it would work in the proposal, so I took it out altogether, against my better judgement [*sic*]. (personal communication, December 11, 2006)

On-line group collaboration poses unique problems because participants' words do not always convey their frustration and unless they ask for help or communicate with the facilitator, problems can become large before they are detected. Also, the designation of *group leader* by the instructor left an impression that was not intended or desired. A number of students communicated that they did not like group projects in FTF or on-line. The problems encountered in this study support the need for careful design of group projects and more training students in methods and responsibilities for group participation.

CHAPTER 5

SUMMARY, CONCLUSIONS, & RECOMMENDATIONS

The purpose of this study was to investigate how constructivist problem-based learning facilitated higher level thinking, increased interest in art, and affected attitude toward on-line courses in an undergraduate philosophical aesthetics and interpretation in art criticism course. The research conducted for this study and the literature regarding constructivist strategies and facilitation suggest that constructivist problem-based learning does facilitate higher level thinking and increase student interest in art and in on-line classes. Previous on-line experience by study participants indicated that this was the only on-line course they had taken that employed constructivist problem-based strategies and assignments requiring more responsibility on the part of learners. Other on-line courses they took required readings, writing assignments, and scheduled tests.

Including the researcher, this qualitative case study research generated nearly 300 pages of data from eight individuals. Problem-based assignments (PBL), along with the constructivist class learning atmosphere, encouraged students to think more deeply about their personal values concerning art and to consider alternative views. PBL in this class acted as a scaffold to aid in understanding the material and then in applying the material to unique situations. Each participant came to the course with certain thinking skills and left with increased knowledge about art but also with increased critical thinking skills for critically examining and discussing art. Participants completed the course with more confidence in their reasoning ability. Participants indicated unanimously that previous problem assignments helped them in the Major Project Assignment (MPA), which would indicate that an increased knowledge was necessary but that problem-based assignments facilitated critical thinking using that knowledge.

The observations of the researcher in tandem with interview information, critical writing assignments, surveys, and the final MPA helped to clarify descriptions and to make interpretations. This involved not commonplace description, but *thick description.* This research took a relativistic viewpoint in gathering data and interpreting meaning. The researcher contributed uniquely to the study of this case and each reader derives his/her own unique meanings.

Constructivist Course Design

The experience of the study participants would suggest that constructivist problem-based assignments and course design were effective strategies for learning about theories of aesthetics and evaluation and interpretation of artworks through critical inquiry. Presentation of assignments as art problems and questions increased interest in the subject, while providing a framework that served to scaffold students' knowledge and their application of knowledge. Students read course texts, examined artworks, and completed increasingly more complicated written assignments that asked them to recognize faulty arguments, assertions lacking evidence, hasty generalizations, and implications and connotations of visual images. Participants in this case study implicitly or explicitly communicated that this course changed the way they perceived images and that they would be a more discerning viewers in the future.

The constructivist pedagogy employed in this class required participants to take responsibility for their own learning. Findings indicated that participants realized that valuing art is deeper than beauty, and that openness to others' opinions increased their knowledge and critical thinking skills. Interest in differing opinions provided opportunities for participants to expand their own viewpoints and inquiry skills. This process is part of self-regulation as

described by Nyikos and Hashimoto (1997) and is a process that is achieved "when individuals are able to find their authentic voice during problem solving by using the mediational tool of language" (Nyikos & Hashimoto, 1997, p. 507).

The constructivist PBL environment of the course challenged and encouraged students to think from different points of view. Instructor and peer collaboration supported and encouraged scaffolding that was intended to move all students in the class beyond their initial viewpoints and knowledge base to incorporate new knowledge. The design and pedagogy used in this course focused on constructivist strategies of teacher facilitation, collaborative interaction, and problem-based assignments.

In addition, the essence of the MPA asked students to construct a unique solution by application of course information that required additional research and understanding of aesthetic concepts. Successful resolution of this problem required application of aesthetic judgment using analysis, synthesis, and evaluation—all higher order learning skills. Findings from this case study research indicated that students perceived that their critical thinking skills had increased as they progressed through the course content and problem-based assignments. In this course, students questioned and discussed options and possibilities both individually and with others; made comparisons; found logical and clear answers; and identified inferences, assumptions and implications—all qualities that exhibit critical inquiry and higher order thinking skills.

Problem-based Art: Challenges and Learning

The cognitive and social constructivist theories of Piaget and Vygotsky (and related theories) were foundational to the course structure, and its activities presented students with a challenge to take responsibility for their own learning. Dewey (1916) viewed problems as a

stimulus for intellectual development as did Jenson (1996) who stated, “the single best way to grow a better brain is through challenging problem solving” (p. 35) and identified challenge as a condition that intrinsically motivates learning when it is not too easy, not too hard, with relevant choices built in. Problem-based assignments presented this kind of challenge. Findings suggest that the MPA and the final critical analysis problem presented the strongest evidence of critical thinking and higher order learning. This could be a result of skills gained in previous problems and also because these two assignments were better problems to solve. Students also had gained knowledge in the field of aesthetics and criticism; they had read more examples of critical writing. However, this finding also supports the concept that challenge in constructivist problem-based learning strategy facilitated an increased critical thinking in study participants. Problem-based assignments, in conjunction with newly gained knowledge in aesthetics and criticism, worked together to facilitate engagement in higher levels of thinking.

Every participant indicated feeling challenged and interested, even excited, about the problem-solving process of locating artworks and evaluating their value for museum collection. Even when feeling initially overwhelmed, every participant indicated an increased sense of self-confidence in understanding difficult material and in locating and selecting meaningful artworks. These research findings would suggest that the challenge of problem-solving not only encouraged higher order thinking but also contributed to students’ interest in art content.

In accepting challenge, all but one participant said they liked the problem-based assignments right away; even that one participant said that though at first she did not like the problem-based assignments, near the end she realized how much more she had gained through independent thinking. The participants in this case study indicated that they had little understanding or experience with art criticism outside of the studio art critique experience that

focused primarily on a formalist discussion of composition and expressionist facets of the students' paintings, drawings, etc. None of the study participants had previous background or experience in the philosophical aesthetics content of this course. Research and critical inquiry provided a vehicle that guided participants in selecting and justifying the value of an artwork and aided them in higher level thinking. The challenging process of searching for information and solving a problem included feeling accomplishment in that when participants were more responsible for their own learning, they also gained confidence in their success and in thinking in art. Student journals and interviews related that students unanimously perceived that the problem-solving strategies in this course contributed to their increased interest in art. Because the problem-solving assignments generated interest, participants stayed engaged and interacted more with course content, which in turn facilitated deeper levels of thinking and increased interest in art.

The aim of this research was to examine each participant's interpretation of her learning experiences in this art course and to combine and compare all the participants' experiences in order to construct a clearer understanding related to the research questions. In triangulating data from the first interview to the second and in comparing content of early critical assignments to the MPA and the final critical analysis, the research noted evidence of the following:

- Participants engaged in a more individualized and purposeful kind of thinking in art
- Participants illustrated intellectual perseverance and intellectual empathy as they took greater charge of their thinking
- Participants demonstrated more awareness of implications and differing points of view
- Participants imposed criteria and standards such as clarity, accuracy, relevance, logic, points of view, implications, and assumptions

Problem-based Learning & Time Constraints

Participants indicated that they liked PBL; they appreciated the value of PBL and the experiences that enabled them to apply different ways of thinking and explore many alternatives and possibilities in solutions. However, a common thread in interviews and in reflection journals was how much time it took to research information, to get together for collaboration, to work out logistics of time for combining information for the MPA. This was also expressed in the Final Course Survey comment. Pressure of time was a common frustration for the final collaborative solution to the MPA and in interviews and reflection journals, references were frequently made to feeling pressured to complete something, to find common meeting time, or to post comments in discussions. Constructivist strategies require more time to implement and facilitate; therefore, the facilitator must focus upon the most important concepts and content rather than a broad approach covering a larger expanse of content.

Journals to Organize and Promote Critical Thinking

In most cases, students chose to treat the journal as a research diary and an outlet for frustration rather than to describe their thinking processes. The instructions for this assignment needed to be more specific in outlining specifically how to describe and include thinking processes. The assignment made assumptions that students knew how to describe their thinking processes and how to distinguish a diary-like approach from an analysis of thinking approach and should have provided specific questions for them to answer about their entries and about their thinking such as:

- How could I check on that?
- Could I be more specific?
- How does what I've said relate to the problem?

- Could I look at this from another perspective?
- Does all this make sense?
- Is this idea central to focus on?
- Which of these facts are more important?

The reflection journals served as an outlet for thinking aloud to oneself and in that way, helped students to verbalize their thoughts and organize their plan of action. Vygotsky interpreted thought and speech as instruments for planning and carrying out of action. Concerning Vygotsky's views on thought and language, Bruner (1986) said,

> Language is (in Vygotsky's sense as in Dewey's) a way of sorting out one's thoughts about things. Thought is a mode of organizing perception and action . . . . society provides a tool kit of concepts and ideas and theories that permit one to get to higher ground mentally. . . . They [concepts, ideas, theories] provide a means for turning around upon one's thoughts, for seeing them in a new light. (p.72-73)

Although none of the reflection journals from the seven participants exhibited examples of metacognition, most of the journal entries exhibited the beginning of critical thought in that they questioned, sought information, and used the journal as a self-talk organizational tool. Some of the reflection journals showed initial attempts to establish criteria, clarity, and significance, which are part of critical thinking. However, all of these journals served the purpose discussed by Bruner (1986). While attempting to solve the problem, the participants' use of writing their thoughts (through language) provided a means for turning around upon their thoughts and organizing their thinking in order to get to higher ground mentally.

Question 1: Problem-based Learning & Critical Thinking

In relation to research question one, all seven study participants showed evidence of increased critical thinking in the final MPA and particularly the final critical writing assignment. This could be attributed to possession of greater knowledge for the last assignments; however,

these problems required an increasingly greater degree of critical inquiry for successful completion and application of knowledge rather than regurgitation of information. The problem-based learning process involved the following: (a) reading the text and handouts to gain new information, applying information into a specific problem; (b) discussing artworks and solutions from different aesthetic stances with peers and the instructor in on-line asynchronous discussion groups; and (c) researching information, and critiquing and interpreting artwork. From early assignments to the last MPA, it was in the final problem assignment that students exhibited more confidence in their ability to express conclusions rather than making general statements such as beauty is in the eye of the beholder.

Participants viewed problem-solving learning strategy as beneficial despite differences in learning styles, levels of art knowledge, and personalities of students completing the assignments. Findings suggest several reasons for this view of problem-solving strategy. First, from the onset of the course, thinking critically and deeply was required and expected by the instructor. Critical reasoning was emphasized in every assignment and examples of previous student writings that applied critical thinking were provided. Also, even though multiple solutions or answers to different questions or problems could be given, assignments required that solutions evidence reasons, justifications, or support from the text or related literature. Finally, the assignments challenged thinking while emphasizing particular philosophical viewpoints as well as caused students to question and attempt to justify a reasonable answer. Because of these reasons, participants saw the benefits gained from problem-solving and deeper thinking.

In addition, students were instructed to think independently while also seeking the viewpoints of others. The final problem allowed students freedom to choose direction yet enough guidance to scaffold their learning through that discovery process. They had a stake in

their own learning as part of a searching process. Several participants indicated that they viewed the problems as puzzles to solve in their own way, which exemplifies constructivist thinking by seeking equilibrium through accommodation of new knowledge into a different pattern or schematic whole.

Students with the highest GPAs were the students who made the greatest gains in the class. This suggests that they already possessed a higher degree of critical thinking skills when they began the class. These students were also the students who expressed that they liked the challenge of the problem-based assignments, especially the MPA. However, PBL and the constructivist nature of this course was well-received by all participants and served a part in their growth in knowledge and in critical thinking.

PBL effectiveness is a result of the successful interaction of the problem, the facilitator, and the problem-solver. The problem can create confusion and frustration as was exhibited in the collaborative portion of the MPA. Goals for using PBL should be articulated and communicated to students since there is a wide variety of learning approaches and outcomes associated with a specific problem. In the on-line class, time constraints pose great pitfalls for collaborative group PBL assignments.

Higher Order Critical Thinking

The selection criteria (see Appendix F) identified subjects enrolled in this course as students who demonstrated successful performance in college-level classes with a minimum 2.5 GPA, 50 hours of completed coursework, and serious thoughtful participation in this class. A reoccurring term communicated by participants when an assignment asked them to think critically was *hard*. Numerous times, students described an initial reaction to the course or to an

assignment as hard particularly when a concept was unfamiliar to students and was something that required critical and higher-order thinking skills using analysis, synthesis, and evaluation. Participant use of the term hard seemed to often be synonymous to the term *challenging*.

In *Brain-Based Learning*, Jensen (1996) argued that the brain is activated by problem-solving and he identified high challenges as specific learning conditions for maximum success, particularly when intrinsically motivated. This view of challenge was illustrated in this study in that students expressed something as being hard, yet all seven participants later communicated that they liked the challenge presented in the problem assignments, and especially in the MPA. Challenges through the constructivist course design of this class initiated higher levels of thinking in which students consciously acknowledged that learning was facilitated by the instructor but the responsibility for learning rested with them.

Aesthetic Stance and Interpretation of Images

Though not all students could readily defend a position from a particular standpoint of formalism or varied standpoints of contextualism, etc., they all began to recognize particular viewpoints, symbolism, signs, biases, and connotations of visual imagery. This course was students' first exposure to the aesthetic branch of philosophy. They all expressed a new-found confidence in their ability to examine visual images and come to understand and interpret those images at deeper levels. Participation in this constructivist learning experience caused students to feel more responsible for learning. Problem-based assignments asked them to apply textual information to demonstrate understanding. Interaction with specific artworks and group discussion led students in this case study to be more cognizant of multiple viewpoints and connotation of imagery.

Attempting to interpret artworks from different aesthetic perspectives required students to use intellectual empathy, which was one course task that most students found difficult and at first were unable to do. Students learned from images during this study; however, initially, they did not realize that images can be didactic. They perceived the purpose of art as primarily decorative or expressive and did not appear to grasp deeper purposes of how art influences culture or society. At the onset of this course students did not understand why a particular painting was in a museum.

Although the participants in this study were college-age students, their previous experience with aesthetic viewpoints or critical inquiry about images was very minimal. None of the participants had previously experienced philosophical aesthetics. Essentially their level of knowledge in this area was not very different from that of high school students. Students did increase their knowledge of aesthetics and criticism. Objective tests could have measured increased knowledge in aesthetics content such as definitions of institutionalist, contextualist, and formalist theories; essay questions could have asked for explanation of terms and concepts or for compare/contrast discussions. However, the constructivist problem-solving atmosphere of this course challenged students to think about the purpose of visual culture and to make informed and substantiated judgments based on imagery and the textual information. They became better critical thinkers and viewers of art by encouragement and facilitation to use higher order thinking skills in understanding and interpreting artworks, in identifying significance, relevance, inference, assumption, or points of view.

Because the case study selection criteria (see Appendix F) included a minimum grade-point and college hours as well as demonstration of thoughtful participation in the class, this case study represents students who had demonstrated success in college and were most likely to take

assignments seriously and to persevere toward a final goal. Even among these participants, that motivation and degree of perseverance varied, whether due to additional outside obligations or deterrents or to personal level of ability or knowledge.

Facilitation

While critical thinking emphasizes development of individual skills and outlook, critical pedagogy addresses power and the way in which it structures social relations as the big picture in which issues are framed. Critical thinking does not necessarily prescribe any particular context for a discussion while critical pedagogy centers on the process of students' engagement of learning with others to become problem-solvers by questioning, examining, and re-thinking. Emphasis on the dialogical process is a key concept of critical pedagogy (Kuster, 2006). Teaching from a critical pedagogical standpoint involved a great deal of time on the part of the facilitator to set up problems based in visual culture. Pre-planning was crucial and constant monitoring was necessary to establish an atmosphere conducive to meaningful dialogue. Trying to facilitate collaborative and individual activities for critical thinking required a great deal of instructor time and creativity as well as frustration. Training in constructivist techniques and strategies would enhance the effectiveness of critical pedagogical teaching.

This case study also revealed a look behind learning and delved into the lives of individual students who were trying to learn course content amidst lives complicated by money concerns, care of children, and full-time jobs. In a relatively short time, the primary task of the was to understand the complexities of the case, guided by the research questions. In doing that, relationships were formed, issues probed, direct interpretations made, data aggregated—all in an attempt to understand the case. Despite a student's desire and planning, stresses of life are ever-

present. Those students whose lives are complicated by past choices or current distress often must compromise their learning to take care of a pressing situation in their lives. Although these things are not under control of an instructor/facilitator, they do interfere in the process of assimilation and accommodation. Students lose focus as new information begins to accumulate; accommodation becomes harder to achieve. At these times, it is even more imperative for the instructor/facilitator to provide ways to facilitate and scaffold students by active-learning situations and assignments that stimulate interest, dialogue and exchange between peers as well as with the instructor. That task may sometimes involve listening, understanding, tutoring, and encouraging students to take personal responsibility to persevere towards their intellectual growth. Deep thinking and metacognition require focus and time. In this study, a creative constructivist problem-solving strategy and an involved instructor aided these students to stay interested and motivated to finish the course. Instructor involvement and assistance is crucial to success in a constructivist learning environment.

Collaboration

Collaboration for the final compiled group proposal was intended to be a final constructivist event in which peers tutored and learned from one another to complete a group proposal that was stronger than any individual proposal. The final collaborative group activity was indicated by every study participant as well as the instructor as the source of greatest frustration and disappointment. This process seemed to begin very well; students got acquainted in their group and began to discuss strategies for combining their separate proposals. At this point, the concept of group leader undermined the collaborative effort. Group members expected and relied on group leaders to pull everything together, and though group leaders tried to

delegate tasks, they ended up doing most of the final compilation of the group proposal. Despite the fact that the instructor communicated that the group leaders' tasks were only to begin the group and submit the one final group proposal, use of the term group leader set the stage for a leader-follower mentality and individual members no longer felt as strong a sense of responsibility. This study encountered a problem similar to one encountered in a group collaboration study by Hughes & Daykin (2002), who investigated students' perceptions and learning in a constructivist on-line environment. Findings of their study suggested that students were quick to overcome anxieties about on-line learning but did not develop significant discussion. In regard to group collaboration, these researchers identified that clearly missing in the design of the study was a constructivist scaffolding checklist providing students with guides and criteria for critiquing and providing feedback to group members. Strongest recommendations were staff development in facilitator skills such as when to contribute, how to answer queries and how to move groups towards higher order thinking skills.

Group collaboration in this class encountered similar problems. The instructor provided some criteria for group interaction early in the course for use in every group activity and an evaluation rubric delineated the process for the final group collaboration. This rubric stipulated that each member was individually responsible for participation and contribution. The use of the term group leader was so stereotypically interpreted that some students did not pay attention to the rubric. Also, in an effort to maintain a constructivist atmosphere in which students made decisions, the instructor was unsure of when to contribute to group planning. This finding adds strength to the recommendation for group collaboration made by Hughes and Daykin (2002), which advocated training in facilitation skills as an extremely important part of strengthening constructivist pedagogy and fostering growth of higher order thinking skills. In addition, another

cause of frustration in the final group collaboration was that students lacked the collaborative skills to delegate and accept responsibility.

Through problem-solving and active learning situations, this course emphasized the dialogical process within a realm of philosophical theory and thought. Teachers bring valuable knowledge to the classroom; texts chosen for classes also bring knowledge to students. However that knowledge must be open to questioning and to an open dialogue between the written word and the reader as well as collaborative instructor-to-student and student-to-student dialogue. Through intellectual challenge and facilitation in a constructivist problem-solving atmosphere, students in this case study questioned, searched, evaluated and justified artworks to varying degrees of success. The problem-solving course atmosphere and facilitation of dialogue in this aesthetics and criticism course fostered growth in the study participants' thinking skills and academic confidence. Using a constructivist approach to facilitating aesthetic and critical art inquiry was an ideal approach for establishing the conditions in which students found individual answers to problems that required them to use philosophical aesthetic reasoning and critical analysis.

The Social Dimension of Learning

Vygotsky viewed learning as a social process in which students build learning together collaboratively through scaffolding. He described scaffolding as a process in which all mental functions possess their own deep-lying roots, not within each individual, but outside in the intercourse and relationships with others (Davydov, 1997). In this study, peer-to-peer and instructor-to-student interactions provided numerous opportunities for scaffolding.

Collaboration in group discussions and problem solving was the strategy applied to encourage scaffolding.

As previously discussed, several study participants communicated in their reflection journal that when first reading the MPA, they felt initially overwhelmed, even panicked, while others said they felt challenged. Challenges and threats perceived by the individual and fear of being overwhelmed by them can be debilitating for students. Those challenges and threats are minimized by both external support from the instructor and social interaction with peers. Jenson (1996) identifies challenge and feedback as strategies for enriching the learning environment and for stimulating thinking. Changes in cognitive structures of students are possible through interaction with a challenging problem. As learners encounter something slightly different in the environment, a process for understanding or adapting the new to the old can occur (Thompson, 1999). Two participants said they thought about the MPA for several days before they started to research for ideas, while others began researching immediately. Reflection journals revealed that students sometimes felt a loss of direction; however remarks following that discussed finding an artwork or information about a museum that started the project moving forward. Some had to pull back and think for a time, while others started working immediately to restore equilibrium by resolving mental conflicts. While these actions can be barriers to learning, these examples illustrate the concept of disequilibration and equilibration in Piaget's concept of assimilation and accommodation in that challenge, in the positive sense, can induce cognitive growth. Effective facilitation helped students to move toward accommodation of new information.

Mediation through speech, writing, language and cultural signs (all part of the social dimension) is crucial to Vygotsky's theory of learning and development. The facilitator is also important to the social dimension of learning. When mediation is internalized, students can

acquire the capacity for higher order thinking (Osberg, 1997). Several participants' comments indicated the importance of the instructor in their learning process. Concerning mediation, Richardson (1997) states:

> The subject of study is the contextualized individual, embedded within a society and formed through a dialectical relationship with the cultural milieu. Vygotsky (1986) argued that individual development could not be understood without reference to the interpersonal and institutional surround. (p. 27)

In addition, the sense of classroom community is important to on-line learning in general and to constructivist on-line learning in particular. Rovai (2002) offers an explanation of sense of classroom community as being mutual interdependence and a sense of trust and interaction among community members. This means that the members of the community have shared goals and values. An on-line community needs to be thought of in terms of the activities people perform together in their group and not physically where they perform such activities. The sense of community is very important to students' positive perceptions of on-line learning. Students needed to feel connected to each other and to the instructor through cultural signs of language and acceptance in order for peer-to-peer and instructor-to-student scaffolding to be possible. The dialogical process within the social milieu of the class contributed to problem-solving and critical thinking in this class but, at times, also contributed to miscommunication and frustration in collaboration.

Immediate and frequent feedback from the instructor informed students about how they were doing and encouraged them to maintain their motivation. Establishing rapport through positive and personalized feedback was very important in this on-line course, where tone of voice and facial expression was absent. These same things were very important to the instructor-facilitator in this constructivist learning atmosphere. In the on-line environment, students tend to regard the instructor as a more able peer; they are often apt to say things in a more familiar way

than they would say FTF. For the on-line instructor, planning and engagement with students required much more than a FTF class, especially in attempting to establish a sense of community.

There is a body of evidence that argues for the importance of a sense of community in learning. Wang (2000) contends that community can result from shared knowledge among learners in an on-line environment. Some studies show evidence that suggests that interaction between learners to create a sense of community in on-line courses could be of great importance to learner success (Citera, 1998; Haythornwaite, Kazmer, Robbins, & Shoemaker, 2000; Shale and Garrison, 1990; Warschauer, 1997).

Question 2: Interest in Art

When students can be personally motivated to probe deeper, the potential to improve their problem-solving skills increases—specifically their ability to hypothesize and test information for reasonable conclusions and deductions. Because the ill-structured domain of art provides no absolute answers, aesthetics is a rich discipline for increasing learning about one's values as well as opposing values, about different ways of thinking, about visual iconography and communication, and about enrichment of life through awareness of what a society produces and values. This philosophical aesthetics and criticism course sought to create problematic situations that could promote genuine reflections about works of art and a greater understanding of how value is placed. PBL situations provided opportunities for students to acquire the background knowledge needed to recognize problems and formulate hypotheses with other interested students about meaning and value of artworks individually and socially. Working

together with others was important because it involved sharing points of view and identifying societal values, which were not available to students working only individually.

The constructivist teaching approach and problem-solving emphasis definitely contributed to students' increased interest in art. Several participants repeatedly used terms such as challenging and interesting in regard to the problem-solving aspect and several indicated that they looked at additional artworks outside of assignments because of increased interest. Every participant moved beyond passive observation of art to active examination of art. The constructivist pedagogy required students to take responsibility for their own learning. Students experienced frustration and loss of direction but they also experienced success in finding answers and in personal growth and appreciation in the subject area of art. Each of these study participants gained knowledge and appreciation for art at their own individual level and will view art with a different eye in the future—a more intelligent eye (Perkins, 1994). Every study participant indicated an increased awareness and appreciation for art that either stated or implied they would continue an awareness and interest in art. PBL and the constructivist learning atmosphere were influential and facilitative in this process.

Philosophical art aesthetic and criticism can be taught in a constructivist learning atmosphere, but this content requires great dedication of the instructor in planning and implementing activities that will engage students with art and constant active facilitation of collaborative and individual inquiry. Six out of seven participants said that the final MPA helped them to apply and use course information. Course knowledge increased throughout the semester but the problem-based assignments guided the students to use the information rather than try to memorize the information. Findings indicate that this case study strongly exhibited evidence that

participants' interest in art increased and that was directly influenced by the constructivist, problem-solving nature of the course.

Question 3: Constructivist On-line Classes

The constructivist teaching approach and problem-based activities of this class encouraged students' learning within a social environment even though that environment was on-line and virtual, rather than FTF. Four of the seven study participants indicated they would take another on-line course or had recommended on-line courses to others. Although participants liked being able to access the course at their convenience; some complained of frustrations with slow computers and said they would upgrade their home computer if taking more on-line classes. One participant preferred on-line communication and said she was better at writing her thoughts and opinions than stating them aloud in a traditional class setting but felt that some people were poor communicators on-line. Others missed the immediacy of FTF response and answers to questions and the physical presence of instructor and classmates. All students liked being right at the computer where they could research something at the same time they were involved in an asynchronous discussion or working on an assignment.

The social dimension is an important consideration for any classroom and even more important for on-line classrooms. Students are imbedded within their social realm. They form relationships with other students and with empathetic instructors. Students turn to peers before they go to an instructor, which implies an even stronger need for developing a sense of community in the on-line classroom.

The frustrations experienced by participants in the final Part 2 collaboration of the Major Project Assignment were examples of failed communication and scaffolding between peers. At

this point of the project, some students felt the pressure of a possible low grade from reliance on peers. The challenge of a collaborative activity did not balance with group member support and participants did not demonstrate skills needed to scaffold one another. The instructor provided some scaffolding to students through communication with individual participants and posted comments in collaborative group discussions. The following comment describes the instructor/researcher's reflection of this:

> We ran out of time without completing the collaboration critique. I'm so upset. . . At least this might have enabled me to scaffold students to practice better collaboration tactics. However, it might have ended in harsh words—the three leaders were very frustrated. I think I should not have used the term leader. It set expectations in the wrong direction and communicated more responsibility than I intended. Group facilitator? Group initiator? Group submitter? Maybe these would have been better and I possibly could have assigned this to different people. Also, I should have delegated responsibilities—perhaps by giving step-by-step instructions how to come up with a combined philosophy by each person submitting an example; then by discussing what was best in that and delegating one person to compile it. With the mission and goals, another person would be responsible. I needed to specify that each person providing an artwork to the final proposal had to submit it by image and edited justification of the work's importance and the artwork label, description, and background ready to paste into the final proposal. (personal communication, December 12, 2006)

Facilitation, scaffolding, and reflection are important parts of constructivist-based teaching and learning. This research supports the need for more study in the area of facilitation of learning and also indicates a need for professional development for educators in facilitation techniques and strategies.

Because so much of contemporary life increasingly involves technology and lacks FTF involvement, it is important that on-line learning and academic exchange incorporate development of social skills in collaboration. All of the participants thought that interaction with their peers was an important part of their learning and liked the on-line discussions. True education occurs when learners can abstractly deal with knowledge and become socially adept in applying, evaluating, reflecting on and adapting that knowledge as responsible citizens.

The constructivist problem-solving approach used in this course held and sparked students' interest in the topic. Even when their preference was not an on-line course, the interaction and engagement with the instructor as facilitator and their peers as collaborators made this course more interesting and their learning more meaningful than it would have been in an on-line class following a read, complete the assignment, take-the-test-type of on-line pedagogy.

Conclusions

The content area of an art aesthetics and criticism course for this study provided an opportunity to obtain college students' perspectives about a body of information that has no clear black-and-white answers but requires a negotiated meaning obtained through dialogic inquiry, which is at the heart of higher order critical thinking. Each of the seven participants who completed the study exhibited a growth in higher-order critical thinking, even though they were a mix of art majors and students with very little to no art background. The nature of art aesthetics and criticism calls for deeper thinking and the constructivist problem-solving learning atmosphere of the class facilitated critical thinking skills as well as increased interest in art. The problem solving assignments and constructivist nature of the course did make students take individual responsibility for their own learning. Problem-based learning presented challenge and resulted in motivation. Participants indicated a newly-discovered pleasure in becoming more adept at viewing and selecting meaningful artworks.

Though some students still expressed a preference for the FTF classroom, all study participants responded to this on-line constructivist PBL class by saying it offered challenges; gave them more confidence in their thinking; kept them engaged to look deeper; became more interesting because they noticed more about art details and meaning; made them consider

alternate points of view; and made them more aware of symbols and signs in visual images. Negative comparisons were made to on-line classes in which the instructor had little presence. The constructivist methods and the on-line consistent presence of the instructor caused participants in this study to develop a rapport with each other and with the instructor. This rapport affected students' attitudes toward learning and toward art because the participants perceived the instructor as helpful, available, and ready to help or answer questions. The participants liked on-line discussion; however, none of the participants liked the collaborative group portion of the MPA, especially as an on-line project. In a collaborative assignment of this type, better collaborative skills were needed as well as better design of group structure.

On-line collaboration presents specific problems. Some students are fearful of seeming too forward while others communicate in a matter-of-fact manner. Without visual cues of body language in FTF encounters, students were uncertain about their role in collaboration. Some students are leaders and others are followers. Social interaction, seeing facial cues, hearing tone and seeing body language is missing from on-line dialogue, inviting more subjective inferences to be interpreted through words.

Designing and facilitating a constructivist on-line course requires an enormous amount of time and dedication. On-line courses are not appropriate for some art course content because of hands-on requirements. In the area of aesthetics and criticism in art, the constructivist learning environment of this course increased interest in art and had a positive affect on students' attitudes toward on-line learning.

Recommendations for Constructivist Strategies

Several recommendations for improvement in constructivist strategies have emerged in

connection with this research: (a) professional development opportunities for training in instructor facilitation of constructivist teaching strategies to foster growth of higher order thinking skills would help instructors to improve constructivist learning in classroom; (b) instructor facilitation training in collaborative group structure, strategies, techniques, and implementation would help instructors to create successful group interaction that retains individual responsibility within the group; (c) particular study and training on group dynamics and effective structure of collaborative groups and group assignments. This would include careful design of collaborative groups in which every group member's role is defined and early explanation of facilitator's expectations for individual responsibility in collaborative group interaction; (d) in group assignments, instructors should make no assumptions about students' background knowledge (such as understanding the duties and responsibilities of a Board of Directors or functions of an art museum).

Recommendations for On-line Courses

Institutions offering on-line classes should establish requirements for on-line course skill training including discussion protocol and on-line social skills for students before their enrollment into on-line courses. Also, institutions need to development of standards for on-line classes that require equivalent learning activities and outcomes of the FTF class for the on-line class. Instructors should be very careful in on-line group collaboration to set up distinctive jobs for each group member and clearly establish individual responsibility for every group member while avoiding labels or jobs that indicate leadership of one over other group members. Constructivist-oriented on-line classes should not have enrollments of over 25 students. This

study focused on seven participants out of 16 students. One reason the instructor could stay attentive to these students was because of the small class size.

Additionally, institutions of higher education should establish more accountability for on-line courses. In establishment of accountability, institutions need to also expect courses to meet standards demonstrating effective teaching and learning that at least equals traditional classes. Effective and substantive on-line courses require more time than FTF classes and instructors should be compensated for design and implementation of good on-line learning environments.

In connection with designing and implementing effective on-line classes, accountability for instruction of on-line courses would increase the over-all quality of Web-based classes. A number of students take on-line courses with the misconception that they are easier than FTF classes. Freshman or beginning students should not be allowed to take on-line classes until they have demonstrated success in regular FTF college courses and knowledge of computer and internet functions.

Finally, art instructors should consider and explore art content that could be suitable and effective for on-line courses. Web-based instruction and distance learning are part of the higher education landscape, and art educators need to be leaders in development of exemplary examples of effective on-line art instruction.

Implications for Future Research

Based upon the findings and conclusions of this case study has generated a number of questions and thoughts regarding the need for future research in several related venues. Although numerous studies have examined learning styles and personality styles in connection to learning, few studies have focused on how college students learn in art classrooms. More

research is also needed to study on-line art courses and effective facilitation of collaboration and problem-solving as well as research in art courses that emphasize development of critical thinking and critical pedagogy. Though increased interest in critical thinking and pedagogy is exhibited in current literature, there is a shortage of studies in art, on-line art courses, and especially in aesthetics and criticism of art.

The population of this study was homogeneous in terms of ethnicity and gender. Future studies in the area of constructivist PBL should expand the population of participants to include minorities and varied socio-cultural backgrounds. A long-term research of student's continued interest, learning, and involvement in art following a constructivist problem-based course such as the one in this study would be very interesting and beneficial to the discipline. An interesting follow-up study to this research would be a long-term investigation of how PBL techniques and collaborative methods affect college students' critical thinking skills and attitudes toward learning when applied sequentially in a number of courses taken by the same subject population.

More study is needed to explore connections between reflective thinking and problem-solving related to critical thinking skills. Expanded use of reflective journals or question sheets following several art problems could lead to insight about how critical thinking can be encouraged and nurtured. These journals or questioning sheets should have specific questions to answer such as: How am I doing? Where do I need to go to solve this problem? How did I analyze this or come to this conclusion? Is my reasoning logical and is it based in substantiated knowledge? Have I made unfounded assumptions and considered different points of view? Reflective thinking question guides following each assignment would facilitate deeper thinking toward metacognition. Another interesting area for research would be to explore creative thinking skills as part of higher-order learning and their relationship to critical thinking skills.

In the area of on-line research, a study of developing communities of practice within on-line courses would be beneficial to Web-based instruction. Communication and exchange through socio-linguistics can be misleading and misunderstood. Studies in how to facilitate learning by creating a sense of community among students would be of great value in improving on-line dialogue and exchange. Another recommendation for research of on-line courses is to study the impact of class size in on-line learning. This study utilized a small class from which to select a case study, and results in a larger class may be very different.

ENDNOTES

[1] In assimilation, an individual tries to organize or apply a new experience into his/her existing understanding or constructs, attempting to follow existing patterns or schemas. In order to accept new information, the individual changes existing understanding of an object or event in order to alter or incorporate it with existing knowledge, resulting in accommodation.

[2] Implicit learning refers to "the process by which knowledge about the rule-governed complexities of the stimulus environment is acquired independently of conscious attempts to do so" (Reber, 1993, p. 219). This term is characterized by learning that proceeds as a passive and unconscious process of exposure to information as opposed to explicit learning (active learning) which can be taught (Fuller, 1999).

[3] In brain mapping, or neuroimaging, a magnetic resonance imaging process (MRI) is used to measure the blood flow response related to neural activity in the brain or spinal cord. A visual image is created (brain map), which reveals areas of brain activity as a result of specific stimuli (Jenson, 1998).

[4] Semiotic interactionists assert that institutions and language are generated from the interplay of individual subjective perspectives (Duong, 1995). Meaning is handled in and modified through interpreting what is encountered in the social setting. It emphasizes the individual's sense-making processes and social processes without giving primacy to either one (Yackel, 2001).

[5] practice of logical discussion as employed in investigating the truth of a theory or opinion (dialogical). (n.d). Dictionary.com, Unabridged).

[6] Visual culture is the visual representation of a culture; includes all humanly-made and arranged artifacts with visual characteristics such as fine art paintings, cartoons, magazine and television advertisements, cartoons, feature films, and computer graphics (Freedman & Wood, 1999).

APPENDIX A

INFORMED CONSENT FORM

University of North Texas Institutional Review Board

Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose and benefits of the study and how it will be conducted.

Title of Study: __A Case Study of Student Satisfaction and Attitude in an On-line Constructivist Atmosphere of Problem-Based Learning and Critical Discourse in Visual Art

Principal Investigator: ___A. Gleny Beach_____, a graduate student in the University of North Texas (UNT) Department of ____Visual Art_____.

Purpose of the Study:

You are being asked to participate in a research study which involves sharing your attitudes and perceptions about your learning experiences and the collaborative major project assignment in ART 3083 Issues in Aesthetics and Criticism. The interviews and surveys will be done through e-mail, in person, and/or phone.

Study Procedures:

You will be asked to keep a reflection journal about the major project assignment, complete surveys and interviews with the researcher that will take about 6 hours of your time.

Foreseeable Risks:

No foreseeable risks are involved in this study.

Benefits to the Subjects or Others:

We expect the project to benefit you by helping you become more aware of how you learn and how you can become a more critical and reflective learner in the future.

Procedures for Maintaining Confidentiality of Research Records:

Signed consent forms and all interview and survey information will be kept in separate locked locations. Your identity and individual information given in interview or survey will not be revealed to anyone other than the Principal Investigator. All interview and survey information used in the study will be coded to protect your confidentiality. Also, the confidentiality of your individual information will be maintained in any publications or presentations regarding this study. Following the completion of this study, all interview, survey and consent information will be destroyed by shredding.

Questions about the Study

If you have any questions about the study, you may contact _____*Gleny Beach*_ at telephone number __580-745-2352_____ or _*Dr. Connie Newton*__, UNT Department of__Visual Art_____, at telephone number _____.

Review for the Protection of Participants:

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants' Rights:

Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

- Gleny Beach has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- You understand why the study is being conducted and how it will be performed.

- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You have been told you will receive a copy of this form.

_____

Printed Name of Participant

_____

Signature of Participant Date _____

For the Principal Investigator or Designee:

I certify that I have reviewed the contents of this form with the participant signing above. I have explained the possible benefits and the potential risks and/or discomforts of the study. It is my opinion that the participant understood the explanation.

_____

Signature of Principal Investigator or Designee Date _____

APPENDIX B

COURSE SYLLABUS

ART 3083: ISSUES IN AESTHETICS AND CRITICISM—*ON-LINE*

Instructor: Gleny Beach, Assistant Professor
Contact Information: **(**580) 745-2352; Visual Art Building 105; gbeach@sosu.edu

Office Hours: by appointment only: M-F 11:00-12:00; M/W 3:00-5:00, F 2:00-3:00
Virtual Office Hours: Monday, Wednesday, Friday, 5:00-5:30

ISSUES IN AESTHETICS AND CRITICISM is a course that addresses the issues of interpretation and evaluation in art by studying a variety of models of inquiry. In addition to the study of chief critical analysis approaches and methodology, course content will also examine aesthetics as an area of philosophical inquiry concerning art works, their makers, perceivers, and context.

Texts & Readings:

- **REQUIRED: Current Editions**
  1. *Basic Issues in Aesthetics*, by Marcia Muelder Eaton;
  2. *Criticizing Art: Understanding the Contemporary* by Terry Barrett
- **OPTIONAL**: A good reference if you have no background in philosophical terminology
  The Complete Idiot's Guide to Philosophy, by Jay Stevenson
- Selected Readings
- Additional materials will be presented through the use of on-line research, images, handouts.

Course Objectives - Upon successful completion of this course students should be able to:

1) interpret and make judgments about artworks as products of a particular culture and history;
2) recognize art as a communication comprised of symbols that are meaningful within a social context;
3) recognize that interpretation of artworks is based on various stances or beliefs about art.
4) examine personal philosophies concerning art and its purpose;
5) discuss the concept of beauty, art, and aesthetic value from the viewpoint of major aesthetic theories.
6) identify and generally explain basic concepts of three general categories of aesthetic judgment making: formalism, expressionism, and instrumentalism;
7) identify, explain, compare and contrast some chief critical approaches, their characteristic aims and methodology (i.e. contextualism, Marxism, psychoanalytic, phenomenology, semiotics, feminism, structuralism, deconstruction, and post modernism; multiculturalism);
8) compare and contrast artworks, applying basic principles of aesthetics and criticism;
9) analyze the functions of art (i.e. individual expression, expression of cultural values).

General Education Objectives and Outcomes addressed by this course:

Fine Arts

The goal of the fine arts component of general education is to enhance the appreciation and understanding of the nature and value of the fine arts. Students will:

1. Identify and appreciate at least one major form of artistic expression and the creative process therein.
2. recognize that interpretation of works of art may be influenced by the social and cultural environment and change through time.
3. enrich their lives by having a greater appreciation for, and active participation in, the arts.

Humanities

The goal of humanities component of general education is to enhance the awareness of students of the cultural heritage of humans. Students will:

1. understand the diversity of human experience through an examination of human cultures and artifacts
2. evaluate current cultural societal activities in light of their historical roots.
3. identify selected influential and representative scholarly, literary, and artistic achievements of the past.

Evaluation and Assessment

1) Project Problems: Written Assignments/Critical Analysis

2) Quiz/Examinations:
    - Multiple choice and Matching; Term Identifications: Identify and state the significance of various terms used in text and lectures;
    - Comparisons: Written compare and contrast various subjects of study or artworks
    - Short answer or extensive Essay: These may cover any topic covered in class discussions or in the text.
3) Group discussions upon given topics or questions
4) Major Problem-Based Project

An schedule of assignments and due dates for the semester will be posted in Blackboard® under Course Information.

On-line format

This course will utilize the course management system **Blackboard®**. Only students enrolled in class are allowed access to the site by use of a password. Your SOSU e-mail address must be the e-mail you use for receiving/sending information through the Blackboard® interface. Students should check e-mail daily. Students should familiarize themselves with the format and options available in Blackboard®. **It is the student's responsibility to be able to access the course, use and regularly check e-mail; therefore, you must have access to a computer with the minimal requirements needed for a Blackboard® course.** If you are accessing from a modem connection, you must allow a much longer time for download of some information. If you are connected by modem, it will most likely be necessary for you to get to a cable or networked connected computer to view and print large PowerPoint files containing multiple images.

The Blackboard® system enables the instructor can monitor every log-in access and area accessed. Also, the Blackboard® system log-in is case sensitive. If your username is all lower case, you must use lower case. If your username has a capital letter, you must type it exactly as you see it. Since this course is entirely on-line, it is imperative that students check into the system daily to check announcements, assignments, etc. See **On-line Policy** in this syllabus.

Problems with Blackboard®:

When you have a problem you can't resolve you may request Blackboard® technical support by doing the following:

FIRST: Check the frequently ask questions link on the Log-in page under student links for an answer to your question.

SECOND: Click on the link on the Blackboard® login page *For students requesting Blackboard® Support* and fill out the form to describe your problem.

THIRD: Call the Center for Instructional Development and Technology, (580)745-3075 or (580)745-3185

If there is a problem beyond your control, such as power outage, hard drive failure or a campus problem that prevents you from completing an assignment or submission, **communicate this to the instructor immediately** by phone or e-mail. Excuses later will not be considered.

Problems with assignments or clarification:

Contact instructor by e-mail, visit with the instructor during virtual office hours, check open discussions that are for the purpose of clarification and instructor aid.

ON-LINE POLICY:

Students should ideally check into the Blackboard© site every day. This is important in order for the instructor to communicate by announcements and to give assignments. You will not be excused from any assignment because you did not check the site. Please communicate with me by e-mail or virtual office hours rather than phone unless it is an emergency.

Since this is a class that is virtually available to you 24 hours a day, no excuses will be allowed for not participating unless you have received PRIOR written permission from the instructor. Do not ask to make up any assignment, discussion, or test without this permission. Do not ask for extra credit. Extra credit opportunities, when given, will be offered to everyone and no special opportunities will be given to one individual. This class requires every bit as much time as a regular class meeting three times a week. BUT, you don't have to drive, look for parking, walk in the rain, wind, or snow. A normal 3-hour credit class meets 2.5 hours per week and you should spend at least that plus a minimum of 2.5 hours more in preparation or study. So, for a MINIMUM (C level work) you should plan at least 5 hours per week on this class. If you want a better grade, you should plan on more time devoted to study and course participation.

You must familiarize yourself in the first two weeks with the system and be able to access all areas of the course. The instructor will provide a number of interactive aids to help you become comfortable using Blackboard© if this is your first experience with an on-line course. If you have problems, they need to be worked out early. No excuses will be accepted that you cannot access the course to get and complete assignments, tests, etc. **Assignments must be submitted through the Assignment Button in Blackboard©. No assignments will be accepted by e-mail. *You must have an e-mail address IN BLACKBOARD that you will check often--that is the communication line for class work, class announcements and clarification***. All instructor e-mail is sent to the entire class group through Blackboard© with one e-mail so that address in Tools, Personal information must be correct. No excuses will be accepted because you did not use the SOSU assigned e-mail address that you check daily.

The instructor can monitor every access by each student as well as the area accessed in Blackboard©. Do not claim you cannot get onto the site to turn in assignments, get announcements, take tests, or participate in group discussions after the fact. Claiming that you could not get on to the course to complete an assignment without documentation of power or computer failure will be considered dishonest. Also, if the course statistical information indicates your log-in and you have claimed that you could not access the course, the incident will be treated as cheating. See the Student Handbook for SOSU policy on cheating. If there is a VALID problem, contact the instructor by e-mail or phone immediately—not after something is due or a test is given.

HONESTY:

Do not cut and paste ANYTHING from a source that is not cited with the information given. This is plagiarism and will be considered as cheating and handled as such according to policies in the Student Handbook. Cutting from an internet or other source and pasting into tests will result in immediate failure for the course and reporting of this activity to the Dean of Students. ALL information that is not your own words in any assignment or discussion should be given credit by citing the source. Any other dishonesty such as turning in other's work or violating the integrity of this course in any way will be treated likewise.

Once you have accessed a test, you may not access it again, so be very careful to follow instructions and to know that once you click to enter a test you must complete it immediately and submit the test and not be able to return to it.

READING:

This course requires a great deal of reading--and reading for understanding. Read each assignment when assigned. You will retain and understand more information if you study/read 20-30 minutes at a sitting. Don't try to read for longer--you will not retain much. I know that you have access to your texts for the tests; therefore, tests are designed to see how much you understood or that at least you are familiar enough with the subject matter to find it or to apply the information in the text. So since tests are open-book, they will consist mostly of essay or short answer. They will be difficult to pass if you have not read and studied the information, done the writing assignments, and participated in the on-line group discussions and assignments.

WORK MUST BE TURNED IN ON TIME AND AS DIRECTED. WORK TURNED IN LATE WILL BE REDUCED BY 5% FOR EACH DAY AFTER THE DUE DATE. WORK MORE THAN FIVE DAYS LATE WILL NOT BE ACCEPTED AND A ZERO WILL BE RECORDED AS THE GRADE. STUDENTS ARE RESPONSIBLE FOR CONTACTING THE INSTRUCTOR FOR EXCEPTIONS TO THIS POLICY.

APPENDIX C

COURSE SCHEDULE

Date	Topic	Readings/Assignments
Part I: Foundations of Western Aesthetics/ Art Theory of the 20th and 21st Centuries		
Week 1 Aug 16-19	Introduction to course	Beginning Survey, Learning Style Questionnaire, Welcome video/message 5 extra credit points
Week 2 Aug 20-26	Eaton Chapter 1: Defining the Issues—An Overview Chapter 2: Artist-Centered Aesthetic Issues	Chapter outline and 2 questions with answers for each chapter, 10 points Discussion Forum 1: Who Are You? 5 extra cred. points Imagination Assignment
Week 3 Aug 27-Sept 2	Eaton Chapter 3: Viewer-Centered Aesthetic Issues	Chapter outline, 10 points Problem 1: Artist-centered topic writing assignment 20 points; Discussion, 5 points
Week 4 Sept 3-9	Eaton Chapter 4: Art & Language	Discussion Forum 2: Chapter 4 Discussion: 15 points Written assignment: Viewer-centered topic 10 points
Week 5 Sept 10-16	Eaton Chapter 5: Aesthetic and Artistic Objects and Their Contexts	Problem 2: Artwork Analysis, 50 points Written Reflection, 10 points
Week 6 Sept 17-23	Eaton Chapter 6: Interpretation & Criticism Chapter 7: Aesthetic Value	Problem 3: Artwork Analysis, 50 points Written Reflection, 10 points
Part II: Critical Theory and Inquiry		
Week 7 Sept 24-30	Barrett Chapter 1: About Art Criticism	Text Reading Assignment Discussion Forum 3: Topic to be decided, 15 points
Week 8 Oct 1-7	Barrett Chapter 2: Theory & Art Criticism	Text Reading Assignment Problem 4: Artwork Analysis, 25 points each
Week 9 Oct 8-14	Barrett Chapter 3: Describing Art	Text Reading Assignment Written Reading Reflection, 10 points
Week 10 Oct. 15-25	Barrett Chapter 4: Interpreting Art	Text Reading Assignment Problem 5: Artwork Analysis, 50 points Written Reflection, 10 points
Week 11 Oct. 26-31	Barrett Chapter 5 Judging Art	Written Reading Reflection, 20 points
Part III: Critical Theory in Practice		
Week 12 Nov. 1-8	Barrett Chapter 6: Writing & Talking About Art	Major Final Problem Assigned, Assignment into groups; reflection and contemplating problem assignment
Week 13 **Nov. 9-22**	Major Problem Group Project	Individual work on Part 1 Major Problem Assignment: Individual portion Due Nov. 22, 100 points
Week 14 Nov. 27-Dec. 7 Dec. 11	Major Problem Group Project	Group Collaboration on Part 2 Major Problem Assignment due: Group portion, 100 points Group participation, 25 points Individual Reflection Journal, 25 points Final class discussion critique: Major Problem group collaboration critique

APPENDIX D

BEGINNING COURSE SURVEY

Question 1 True/False

I can operate word processing software such as Word or Word Perfect, save and retrieve files.

Answers	Percent Answered
True	100%
False	0%
Unanswered	0%

Question 2 True/False

I can create, save and manage files on a computer.

Answers	Percent Answered
True	100%
False	0%
Unanswered	0%

Question 3 True/False

I can you install software on a computer if needed.

Answers	Percent Answered
True	100%
False	0%
Unanswered	0%

Question 4 True/False

I can access the World-Wide Web (internet) and use search engines.

Answers	Percent Answered
True	100%
False	0%
Unanswered	0%

Question 5 True/False

I either own a computer with minimal requirements listed for Blackboard use or I can you get to a campus or to a library to use a computer at least three times a week.

Answers	Percent Answered
True	100%
False	0%

Unanswered	0%

Question 6 True/False

I can send and receive email messages and attach a computer file to an email.

Answers	Percent Answered
True	100%
False	0%
Unanswered	0%

Question 7 True/False

I know how to "paste" text from a word processor into an email message.

Answers	Percent Answered
True	92.308%
False	7.692%
Unanswered	0%

Question 8 True/False

I know how to open a file attachment from an incoming email message.

Answers	Percent Answered
True	100%
False	0%
Unanswered	0%

Question 9 Multiple Choice

Which of the following is most true of you?

Answers	Percent Answered
I stay on task without direct supervision.	92.308%
I work best when someone is there to help keep you focused.	7.692%
	0%
	0%
Unanswered	0%

Question 10 Multiple Choice

Which of the following is true?

Answers	Percent Answered
I learn best from reading text and assignments.	61.538%
I learn best from spoken or visual presentations.	38.462%
	0%

	0%
Unanswered	0%

Question 11 Multiple Choice

Which of the following is most true?

Answers	Percent Answered
I can prioritize my own workload.	76.923%
I tend to put tasks off for later.	23.077%
	0%
	0%
Unanswered	0%

Question 12 Multiple Choice

Which of the following is most true?

Answers	Percent Answered
I enjoy learning new computer or technology skills.	100%
The thought of having to learn new computer or technology skills causes me anxiety.	0%
	0%
	0%
Unanswered	0%

Question 13 Multiple Choice

Which of the following is most true?

Answers	Percent Answered
I usually understand written instructions.	76.923%
Having instructions explained make a big difference to me.	23.077%
	0%
	0%
Unanswered	0%

Question 14 Multiple Choice

How much time per week do you anticipate will be needed to succeed in this course? (a grade of C or higher)

Answers	Percent Answered
1-2 hours per week	0%
3-4 hours per week	23.077%
5-6 hours per week	30.769%

More than 6 hours per week	46.154%
Unanswered	0%

Question 15 Multiple Choice

What is your goal as a final grade in this class?

Answers	Percent Answered
A	100%
B	0%
C	0%
Lower than a C	0%
Unanswered	0%

Question 16 Multiple Choice

Which of the following is most true?

Answers	Percent Answered
I am good at assessing my own progress.	61.538%
I need instructor feedback quickly.	38.462%
	0%
	0%
Unanswered	0%

APPENDIX E

E-MAIL CASE STUDY PARTICIPANT REQUEST

Hi ___(student name),

I am working on my doctorate in art education and I am really interested in on-line learning and in how students go about completing assignments that are given in the form of a problem. I am also very interested in your opinions and perceptions about how you process the information in this on-line course and how you complete the assignments in an art course where there are often not black and white answers and where the instructor does not present information to you in a lecture format. I would like to ask you to volunteer to participate in some interviews with me by e-mail, phone, or even in person and to possibly complete some surveys. I would like to select eight students who will agree to participate. This may take about 4-5 hours of your time and is entirely voluntary. Agreeing to participate will in no way affect your grade in this course or change the course assignments.

There are no risks to you personally in participating in the study. You may ask, "How does it benefit me?" The interviews and surveys will focus on things like how you approach a learning situation, how you process information, your interaction in an on-line class, how this type of course affects you, etc. This type of reflective thinking often helps you to become a better learner. Also, your participation in this study will help me and other educators to gain deeper understanding of students' points of view and about ways to make learning better particularly in an on-line course. So, you would be helping me and other educators as well by what we may find out in this research.

If you are willing to participate in this study, would you please e-mail me right away stating that? I will then send you a consent form to sign and mail back to me. I really appreciate your thoughtful consideration to be a part of this research.

Gleny Beach

APPENDIX F

CASE STUDY SELECTION CRITERIA

Case study participants were selected by the following criteria:

- were enrolled in ART 3083 Issues in Aesthetics and Criticism for fall, 2006;
- demonstrated dedication and regular *thoughtful* participation in assigned activities (defined as participation and completion of assignments that paid attention to the objectives and requirements of the assignment and demonstrated self-motivation and individual thinking and support of opinions);
- had completed fifty total credit hours
- maintained a 2.5 overall grade point average.

APPENDIX G

CASE STUDY PARTICIPANTS

Participant & Group Assignment	Age	Ethnicity	Gender	Major	G.P.A.	College hours completed	Art courses taken
Rachel Group 1	21	Caucasian	Female	Graphic Design	3.81	85	7 studio 1 history
Mandy Group 1	50	Caucasian	Female	General Studies	2.53*	122	10 studio 3 history
Becky Group 1	25	Caucasian	Female	Chemistry	2.5	52	High School
Nicole Group 2	23	Caucasian	Female	Graphic Design	3.69	87 (Associate Degree)	7 studio
Connie Group 2	36	Caucasian	Female	General Studies	3.31*	105 (Associate Degree)	None
Morgan Group 2	22	Caucasian	Female	Art	3.2	95	8 studio 1 history
Brandy Group 3	20	Caucasian/Native American	Female	Art	3.27	56	3 studio 1 history

*These students had previous college work over ten years old that caused a much lower GPA; only the last ten years were figured for GPA criteria of this study

APPENDIX H

COURSE ASSIGNMENTS

1. **Critical Attributes of Art**

You have all done research on "elephant art" and I have read various information and conclusions on your part. So, now I would like you to think about your reasoning for deciding if you consider an elephant painting art. What were your reasons for saying it is art or it is not art? Another term for this kind of reasoning about art is "Critical Attributes." Open the attached file and write at least 5 reasons why something would be considered art in your opinion. Then following that justify why elephant art is or is not art using your list of critical attributes. Save this file under your own file name and then using the Browse button in this assignment, insert your file back in for grading. This is due Wednesday, Sept 6 by 8:00 a.m. and is worth 5 points. On that day, I will have posted a 2-day discussion about this topic.

2. **Is it Art?**

Visit the following link and read about the art pictured there. Then write an approximately 250 word paper answering the question "Is it art?" This will be your opinion but I want you to find support for your opinion from Chapter 1 and 2--especially Chapter 2 in Eaton's text. Look for more information about elephant art---or even other animal art. This paper begins our journey to increasing your critical thinking skills, an important skill for thinking in art aesthetics and criticism.

After you have written the assignment and saved it in your computer files, please submit the written assignment into the Assignment using the "Browse" Button to insert your file. Using "Save" will only save what you have--it will not submit it. You must click the submit when you are ready for me to grade it and you will see a "!" in the grade book. The Assignment is due Friday, Sept. 1 by 8:00 p.m. and is worth 15 points. Here is the link:
http://www.elephantart.com/catalog/thailand.php

3. **Don't Forget the Ketchup**

Click on the link to see the assignment. Follow the directions for the writing assignment given. Save your written work in a file and then submit it through assignments using the Browse button to locate your file and open the file (thereby inserting your assignment). This is due by Monday Sept. 18 at 8:00 A.M. (15 points)

4. **Art Criticism Assignment 2**

Form_and_Content_Compare_Contrast_Assignment.doc
Writing Assignment 2:
View and read the above assignment.

Chapter 5 Writing Assignment

Using the attached file, complete this definition of terms assignment and submit it back through Assignments using the "Browse" button in the assignment. 10 points Due Wednesday, October 3 by 8:00 a.m.

5. **Writing Assignment Ch. 6-7**

Complete the attached assignment. Write answers in your own words that help you to understand the terms. Do not just copy the text. Due Wednesday October 18 at 8:00 a.m. 10 points

6. **Keith Haring Writing Assignment**

Write your own description of Keith Haring's artwork *Religious Statemen,t* paying particular attention to your Chapter 3 reading from *Criticizing Art.* Then write 4 different interpretations: 1 from a Formalist standpoint, a 2nd from a Marxist Standpoint, and a 3rd from an Institutionalist Standpoint and the 4th from your own standpoint. Be concise and to the point--This should be 2-3 pages double spaced in maximum 12 font. You will be assessed on your ability to apply past knowledge to the present reading. In writing from these different viewpoints, you don't have to believe that that viewpoint is right or agree with it. I want you to use your knowledge about that particular viewpoint to write what a Formalist, Marxist, or Institutionalist would say about it. You also should do a little research on Keith Haring and his work. Look back in your aesthetics text and use chapter 3 of your *Criticizing* Art to help you. Due Wed. Nov. 8 by 9:00 p.m. (20 points)

7. **Ways of Seeing**

Berger__the_gaze.doc
Writing by, information on Marxist John Berger

8. **Interpretation: Hopper**

Open the file attached for a discussion and numbered questions which you should answer. Resave the file with your file name after you have answered and submit back in assignments. Full points will be awarded only for FULL answers demonstrating understanding of our readings.

9. **Reflect Journ.1st**

Attach your reflection journal to date for a possible 5 points. Due Saturday Nov 11 by 10:00 a.m.

10. **Reflection Journal**

Click on the assignment link to access a file with directions for this assignment. Submit your Journal as a Word file through this assignment. This assignment is due Monday, Dec. 11 by 5:00 p.m. Do not turn it in early. It must contain reflections right up through the finish of the group proposal turn-in. DUE DECEMBER 11 BY 5:00 P.M. (25 points)

11. **MAJ.PROB.Part 1**

See the attached assignment for the PART 1, the Individual part of this assignment. There is a 2nd file with a suggested format to help you organize your final individual proposal. You will turn in your individual assignment through this assignment. This assignment is worth 100 points.

For PART 2, you will be assigned a group with which to work to complete the second part listed in this assignment. It will be turned in differently and you will receive instructions for that later. The Reflective Journal will also be turned in via a different assignment link listed "Reflection Journal" and worth 25 points. Part 1 is due November 17 at 9:00 p.m. The Reflection Journal will be due with Part 2 and announced later.

12. **MAJ. PROB.Part 2-Group**

Click on the file link to read Part 2 of the Major Problem Assignment. Read the entire assignment. Email me with any questions or confusion. Click Discussion Board to find the group with whom you will work to complete this assignment. The group leader will be responsible to get communication started in the discussion forum and submit the final one group proposal that has been created from your individual proposals. You can use the group discussion forum, arrange with me for a virtual class meeting, email or phone each other, actually arrange a meeting--communicate in any way that all the group can participate. You can check out what the other groups are doing but don't comment in their group. Your individual participation in the group will be assessed by all group members and by me, so don't leave anyone out or fail to participate. (100 pts.)

DISCUSSION BOARD ASSIGNMENTS

First Discussion Board

Click on the Discussion Board button and then click on the underline link Who Are You? for Discussion Board Let's get to know each other a little and then relate to chapter 2 to answer the questions there.

Discussion Board Assignment

Discussion_Forum_feminist_marxist_female_images.doc (767.5 Kb)

Look first at the file link above and make some independent notes to answer the questions given. Then, begin your discussion in your Discussion Group Forum by discussing first what you think about the viewpoints in the artworks by Cassatt, Morisot, Degas, Ingres, Delacroix, Renoir. What is being communicated in the final image by Barbara Kruger? Then look at the links that follow. Discuss any of these images first from a Marxist viewpoint and then from a feminist viewpoint. You may also bring other images you find as examples into the discussion. Using Kruger's title, who is bought and sold in the images by both Kruger and Cindy Sherman? Think deeply and try to see these images from a feminist or Marxist viewpoint. Also give your own critical interpretations of what these visual images are saying. If you start a new thread of thought be sure to title your thread by its content.

http://www.eng.fju.edu.tw/Literary_Criticism/feminism/kruger/kruger.htm
http://www.eng.fju.edu.tw/Literary_Criticism/feminism/women/women.htm

Discussion Group Forum 5

Read the art criticism comments in the attached file concerning the works of artist Romare Bearden. Look at some of his works pictured; then discuss the critic's remarks in light of your reading and in light of what you can research and find out about Bearden and his work. In particular, relate your discussion to seeing meaning points on pp. 48-50. Then go to the Group Forum Discussion in Group Pages to discuss this question. Feel free in your discussion to express your own opinion, analysis, and interpretations of his work in light of the critics' comments.

APPENDIX I

MAJOR PROJECT ASSIGNMENT (MPA)

Background:

You are part of a newly-formed Board of Directors for a local museum that has recently received a $20,000,000 endowment gift. $10,000,000 has been specified for new acquisitions and $10,000,000 will be invested with proceeds available for future acquisitions for the museum. The museum is the only art museum in a city of approximately 75,000 people and has a permanent collection of forty Native American artworks and about twenty miscellaneous paintings by relatively unknown artists. The museum is run by a Museum Director who provides variety by scheduling five visiting exhibitions yearly in addition to exhibiting the permanent collection. Plans are already underway for raising money through grants and matching donations to add a new wing to the existing museum and to hire a curator in addition to the Museum Director.

Problem:

The Board of Directors is charged with creating a new philosophy, vision, and goals document for the museum. In addition, the Board will select and purchase ten new artworks and hire a museum curator to select future artworks and work with the Museum Director. The President of the Board of Directors (Mrs. Beach) has charged each member with:

- Developing an individual proposal for a new museum philosophy, vision, and goals statement.
- Locating four artworks to propose for purchase. These recommendations should include supporting justification for acquisition including: description of the artwork, information on the art and/or artist, justification why these artworks should be purchased (theoretical reasons that fit within the new philosophy statements and reasons these works represent an important and worthy art acquisition).
- Researching qualifications for an art museum curator and a description of position
- Including a reference page listing all sources used
- Keeping a reflection journal of what you do and think as you complete this assignment

Following individual proposal development, the four Board members, the Board President, and Museum Director will meet to discuss each proposal. From the individual proposals, a final philosophy, vision and goal statement will be developed and ten final works selected for purchase. The Board will then decide the qualifications needed for hiring a curator to oversee the museum holdings and future museum acquisitions. The final proposal for your group will include:

- Final philosophy, vision and goals statement
- List of artworks to be purchased with a jpeg image of each and a label description for each (artist, title, date, medium, size followed by interesting facts or information about the work and artist. The label will be included with each piece when exhibited.
- Justification why these works are the best purchase and how they fit the philosophy of the museum
- A job description for the new curator.

Individual Proposals will be submitted to the instructor (Board President) and to each of the collaborative group members [100 points].
Final Group Proposal [up to 100 points each]: You will be assigned to a group of three or four Board Members to review and discuss all individual proposals and collaborate to create one final proposal to be submitted to the instructor (Board President). [100 points]
Final Reflection Journal [25 points]: to be turned in following submission of the final Group Proposal.
Group Participation: 25 points will be assessed by your peers and your instructor regarding your participation and effort within the group to do your part. The assessed score for each individual on the Final Group Proposal will be multiplied according to the percentage score figured from the Peer Group Assessment.

Summary of Major Problem Assignment: (245 total points)

PART 1: Individual Assignment (100 points)

- Using what you have learned this semester about valuing and making critical judgments of artworks, create a philosophy, vision (plan for future), and goals for this museum. Include a support statement from what you have learned in the course texts.
- Search and research artworks (actual museum holdings, on-line museum sites, art galleries, on-line art galleries) to find four artworks in any media—painting, drawing, sculpture, installation, photography,

mixed media, video, etc. You will need to include an image and description, background, artist information on each artwork—anything you judge necessary to "validate" why this artwork should be chosen. If at all possible, visit an actual museum to view some of the art pieces. Each work should be listed with a title, artist, date of creation, medium, and size (if possible) and a critical description and justification for why this work is important.

- Use your texts or any other reliable information and document where you found this information in a selected reference page at the end of your proposal.
- Create and submit qualifications/job description for the hiring of a museum curator.
- Submit a written proposal to the Board President (Mrs. Beach) via Blackboard© Assignments and to each Board member (your collaborative group). [total individual assignment: 100 points]

- REFLECTION JOURNAL (25 points): Keep a journal of what you do and think as you complete this assignment—individual and group. The first reflection journal assignment is to list what you need to do and design a plan of action; following that, list the date and what you did as you proceed through the assignment. Also include as any insights, thoughts, ideas you might have for how to proceed or reflections about something you did in working on the assignment. (25 points)

PART 2: Collaborative Group Assignment (up to 00 points for each person):

- From your individual proposals, use the Blackboard© Discussion Forum, e-mail, and/or phone, face-to-face meeting to collaborate with other group members to create a Final Group Proposal including a philosophy, vision, and goals statement and any other pertinent information.
- From the individual proposed artworks, collaborate to choose ten (10) total artworks that the Board recommends for purchase. These artworks should each have a picture, a critical description and justification why it is an important work, artist and information, rationale for why it is appropriate to your philosophy and vision, and a discussion of the aesthetic and critical theories behind the rationale and choice.
- The Board Director will help by facilitating on-line discussions and serving as a resource.
- Combine individual findings to create and submit qualifications/job description for the hiring of a museum curator.
- Submit the Final Group Proposal to the Board President (Mrs. Beach) via Blackboard© Assignments.

PEER AND INSTRUCTOR EVALUATION OF YOUR GROUP PARTICIPATION (25 points). Participation in group activities will be assessed as a percentage score based on the evaluation by instructor and peer group members (see rubrics following).

MAJOR PROBLEM ASSIGNMENT ASSESSMENT RUBRIC

Key: 1-1.9 = 60-69 points
2-2.9 = 70-79 points
3-3.9 = 80-89 points
4-5.0 = 90-100 points

Name _____

EVALUATION RUBRIC (Individual and Group):

GRADING OBJECTIVE	**MARGINAL 1-1.9 (60-69%)**	**ACCEPTABLE 2-2.9 (70-79%)**	**COMMENDABLE 3-3.9 (80-89%)**	**EXEMPLARY 4-5.0 (90-100%)**
Quality of philosophy, vision, and goals statements Exhibits thoughtfulness, attention to assigned textual information, provides support and justification from course text and outside sources with references				
Artworks selected: provides an image and label information requested, background information, critical description, rationale supported with reliable sources				
Written format quality, reference page				
Curator Qualifications: evidences research about what a museum curator does, and specific expertise needed for this museum (group assignment only)				

OVERALL EVALUATION:	**TOTAL PROPOSAL POINTS ASSESSED**	
MULTIPLIED BY PARTICIPATION PERCENTAGE (group only)		
TOTAL INDIVIDUAL GRADE ON GROUP PROPOSAL		

GROUP PARTICIPATION
INSTRUCTOR & PEER EVALUCATION

Please type in all the names of people in your group, including your own. Put a check mark (X) in the column that best describes each person's participation. Peer and Instructor marks will be averaged to arrive at a percent participation grade which will be multiplied with the grade for Part 2, group proposal to arrive at individual final Part 2 grade assessment.

Group Member Name	Participated regularly and consistently and with enthusiasm; did not appear absent from the group. Contributed ideas, information & opinions for change and rewrite; did not just follow or agree. 60-69%	Participated regularly; contributed some information & opinions for change and rewrite but tended to be more passive 70-79%	Participated sporadically; contributed little; appeared to often be absent from the group. 80-89%	Was not a contributing and useful member in the group 90-100%

Name: _____

Final Participation %_____X Part 2 Grade_____ = _____ Final Individual Grade

Major Project Assignment: Suggested Basic Format to Follow:

Proposal:
Here, discuss the background of the museum and give an overview of what you recommend for the museum as a focus for the new works and direction for the museum

Philosophy:
In this section, write the philosophy that should guide the museum's focus and mission now and in the future

Goals:
- Use bullets or numbers to list major goals the museum should strive to keep as foundational to decisions

Vision:
Here discuss what the museum should become or grow toward.

Selected Artworks:
In this section, list each artwork first by Title (in italics or underlined), artist, date (if possible), medium, size. Then paste an image of the work that you have saved in a jpeg file format. Finally, describe the importance of the work, style, context, background material that tells us why it would be an important work for the museum to collect.

Curator Position:
Discuss your research about what a museum curator should be and do, education, experience, any pay scales you find. Then write a job description.

Reference Page:
This should contain all sources you consulted for information.

APPENDIX J

REFLECTION JOURNAL ASSIGNMENT

Create a Word File named Major Problem Reflection Journal that you will use to record your progress and your thinking processes while completing the Major Problem Assignment. Date each entry and then just type your reflection about what you did, saw, thought, or decided. Begin by reading the whole assignment--both individual Part 1 and Collaborative Part 2. Then write your thoughts--even worries--followed by a list of what you will do to begin.

This assignment will be graded on how much reflections and conscientious inclusion of how you solve and complete this problem. It is OK to include frustrations, but it is not a venue to just complain. It is meant to help you critically think and solve this problem.

Journals will be assessed by the following criteria:

Unacceptable: **60-70%**
Acceptable: **70-85%**
Target: **85-100%**

UNACCEPTABLE	**Acceptable**	**TARGET**
1. Scanty or minimal information **2.** Vague, general descriptions of activities **3.** Illegible, sporadic coverage of activities or missing activity discussion	1. Discussion of activity or incident in light of how the assignment progressed 2. Reflection/ thought involved in discussion—what was gained or learned 3. Suggestions for change or improvement 4. Attempt to write something about all phases of the problem-solving, including collaborative phase	1. Detailed discussion relating aspects to how the assignment progressed. Discussion includes strategies and relationship to art and aesthetic/critical judgment-making 2. Insightful reflection and thought included—evidence of personal involvement & application of course content 3. Attempt to write something about all phases of the problem-solving, including collaborative phase **4.** Evaluation/Assessment included questioning, searching for solutions, or suggestions **5.** Evidences knowledge of aesthetic and criticism content of class.

APPENDIX K

CASE STUDY INTERVIEWS

Case Study Interview 1

1. Demographic Information: Name
   Major/Minor
   Age
   Status/year in school
   Home
   Degrees/previous jobs/occupation

2. Tell me about yourself.

3. Why did you take this class?

4. What are your general impressions of this class?

5. Is this your first on-line class?

6. How much art background do you have?

7. What did you expect about the on-line part of the class?

8. If you have taken other on-line classes, what is your opinion of on-line classes in general?

9. What did you expect in the course content?

10. What other art classes have you taken?

11. In what category did the Learning Style Questionnaire place you?

12. Do you agree with the results of the Learning Style Questionnaire?

13. How has that knowledge of the Learning Style Questionnaire helped you in learning?

14. How do you perceive the way the course material is presented in this class?

15. How have the study aids and on-line use aids provided in the course helped you?

16. How do you perceive the role of the instructor in the presentation of course material in this class?

17. What have been the sources of frustrations in this course?

18. What have been the discoveries or sources of satisfaction in this course?

19. Have you felt more responsible for your own learning?

20. Have you enjoyed the collaborative group assignments? Why or why not?

21. What role have classmates played in your learning in this course?

22. How do you perceive the assignments that are presented as a problem for you to solve using course readings and information?

23. Drawing from some of your reflections statements following assignments, what were some of your observations about assignments?

24. What are your future career aspirations? How do you think what you have learned in this class will be useful in the future?

25. What do you think the values are of writing a reflection as a final part of an assignment?

26. As this class has progressed, what methods of learning have you found that work best for you?

27. Do you perceive yourself as a better critical thinker than when you began the class? In what ways?

28. What could the instructor have done that would have been more helpful to you?

Case Study Interview 2: Major Problem Assignment

1. What were you initial thoughts when you first read the major problem assignment at the beginning of the semester?

2. To what extent did you think about the problem before you were assigned to a group to work on the assignment and given the actual task assignments?

3. When you were assigned to a group, did you make contact right away or did you wait?

4. Describe your impression of how the group began to work on this problem.

5. What kinds of methods did the group use to communicate? Did you use anything other than the on-line communication sources?

6. Tell me about your thinking process while you worked on this assignment.

7. Do you think you have become a better critical thinker or writer by working through the problem assignments and group discussions in this course? Can you explain how?
8. Did working/discussing with your group help you to become more aware of how you think and more conscious of assumptions and point of view? Can you explain how?

9. Do you think you are better in developing solid reasoning to justify or debate a point of view? Can you explain how?

10. How did you use the text resources in working out the problem? What other resources did you use? Did you seek help in the Tool Button Areas such as Course Information or External Links?

11. How much did you consult internet sources? Did you use a library?

12. How did the on-line element of the class aid you to learn?

13. How did the on-line element hinder you?

14. How do you feel about learning in an on-line class at this point?

15. Did you seek help or ask questions of the instructor?

16. Did earlier problem-based assignments and/or collaborative groups help you to be more successful in this final group assignment?

17. Tell me about the dynamics of your group. How did you get organized to complete the task?

18. Did you find yourself helping others to understand or seeking help from other group members or both? How would you rate yourself as a group member?

19. What were the sources of frustration in your group? How were those frustrations resolved?

20. Did you find yourself taking a leadership role or a role of follower?

21. How would you change your approach and participation if you were beginning this project again?

22. What role did the instructor serve in the final major problem assignment? Can you make suggestions for other ways the instructor could facilitate the group?

23. Did the reflection journal help you to sort your thoughts or work out solutions? Can you explain?

24. How did the reflection journal for this assignment contribute to your learning or to the solution/completion of this problem?

25. Did this problem assignment help you to use the information you have studied in the course? Can you tell me how?

26. What things did you learn from classmates/group members?

27. Did working through this problem cause you to see how art is valued?

28. Did discussion with others broaden your own opinions/values? Can you explain how?

29. How did discussion of this course content with others help you to learn to better express and justify your opinions?

30. How has study in this course changed your view of art or its use in our society?

APPENDIX L

FINAL COURSE SURVEY

Question 1 Multiple Choice

Why did you take this class?

Answers	Percent Answered
Required for my major	66.667%
Required for my minor	0%
An upper level elective	25%
Personal interest	8.333%
Unanswered	0%

Question 2 Multiple Choice

The syllabus accurately describes course content and objectives

Answers	Percent Answered
Strongly agree	66.667%
Agree	33.333%
Disagree	0%
Strongly disagree	0%
Unanswered	0%

Question 3 Multiple Choice

What is your classification?

Answers	Percent Answered
Senior	58.333%
Junior	33.333%
Sophomore	8.333%
Freshman	0%
Unanswered	0%

Question 4 Multiple Choice

I like the organization of the class information in Blackboard.

Answers	Percent Answered
Yes	83.333%
No	16.667%
	0%
	0%

Unanswered	0%

Question 5 Multiple Choice

Course pace and difficulty were appropriate for an upper level class.

Answers	Percent Answered
Strongly agree	50%
Agree	50%
Disagree	0%
Strongly disagree	0%
Unanswered	0%

Question 6 Multiple Choice

The assignments were reasonable for an upper level class.

Answers	Percent Answered
Strongly agree	50%
Agree	41.667%
Disagree	8.333%
Strongly disagree	0%
Unanswered	0%

Question 7 Multiple Choice

Course activities and quizzes reflected important course aspects.

Answers	Percent Answered
Strongly agree	58.333%
Agree	33.333%
Disagree	8.333%
Strongly disagree	0%
Unanswered	0%

Question 8 Multiple Choice

Instructional materials were used effectively.

Answers	Percent Answered
Strongly agree	58.333%
Agree	33.333%
Disagree	8.333%
Strongly disagree	0%
Unanswered	0%

Question 9 Multiple Choice

This course increased my interest in the subject.

Answers	Percent Answered
Strongly agree	41.667%
Agree	25%
Disagree	33.333%
Strongly disagree	0%
Unanswered	0%

Question 10 Multiple Choice

The instructor was knowledgeable about the course content.

Answers	Percent Answered
Strongly agree	91.667%
Agree	8.333%
Disagree	0%
Strongly disagree	0%
Unanswered	0%

Question 11 Multiple Choice

The instructor was knowledgeable about ways to integrate technology in the class.

Answers	Percent Answered
Strongly agree	66.667%
Agree	25%
Disagree	8.333%
Strongly disagree	0%
Unanswered	0%

Question 12 Multiple Choice

Overall, the course and instructor met my expectations.

Answers	Percent Answered
Strongly agree	41.667%
Agree	58.333%
Disagree	0%
Strongly disagree	0%
Unanswered	0%

Question 13 Multiple Choice

Having completed the course, I feel more knowledgeable in the subject.

Answers	Percent Answered
Strongly agree	41.667%
Agree	41.667%
Disagree	8.333%
Strongly disagree	0%
Unanswered	8.333%

Question 14 Multiple Choice

Blackboard was a user-friendly site.

Answers	Percent Answered
Strongly agree	75%
Agree	25%
Disagree	0%
Strongly disagree	0%
Unanswered	0%

Question 15 Multiple Choice

The instructor gave adequate instructions for using Blackboard.

Answers	Percent Answered
Strongly agree	58.333%
Agree	41.667%
Disagree	0%
Strongly disagree	0%
Unanswered	0%

Question 16 Multiple Choice

The instructor's directions and communication were clear.

Answers	Percent Answered
Strongly agree	50%
Agree	33.333%
Disagree	16.667%
Strongly disagree	0%
Unanswered	0%

Question 17 Multiple Choice

The Group Discussion Boards created interest in the course content.

Answers	Percent Answered

Strongly agree	25%
Agree	58.333%
Disagree	0%
Strongly disagree	16.667%
Unanswered	0%

Question 18 Multiple Choice

I would recommend this course to other students.

Answers	Percent Answered
Strongly agree	25%
Agree	41.667%
Disagree	33.333%
Strongly disagree	0%
Unanswered	0%

Question 19 Multiple Choice

The Group Discussion Forums challenged my thinking and helped me gain deeper understanding of the course content.

Answers	Percent Answered
Strongly Agree	33.333%
Agree	50%
Disagree	8.333%
Strongly disagree	8.333%
Unanswered	0%

Question 20 Multiple Choice

The assignments generally made me think and helped me to gain understanding of the course content.

Answers	Percent Answered
Strongly agree	41.667%
Agree	58.333%
Disagree	0%
Strongly disagree	0%
Unanswered	0%

Question 21 Multiple Choice

This course has broadened my perspective and thinking about this subject area.

Answers	Percent Answered
Strongly agree	41.667%

Agree	58.333%
Disagree	0%
Strongly disagree	0%
Unanswered	0%

Question 22 **Essay**

List any positive/negative factors about the course.

Unanswered Responses 6

Given Answers

Negative:
The group project was very stressful because of the lack of interaction between group members. Some seemed to understand immediately while others simply coasted along on each others coattails.

Positive:
Gleny was available for discussion no matter how many times I came to talk about things with her she was always ready to listen and give advice.

I thoroughly enjoyed this class and learned so much! The only negative experience I had was with my group project, my group members really didn't interact with me or other members to get it done. On a more positive note, Gleny was always available when I had questions; she ALWAYS made time to help.

The positive factors was learning more about art and artists and their backgrounds. Another positive factor was making new friends and actually meeting the people that you talk to online. The interaction of a group atmosphere was positive in many ways and you learn about people's likes and dislikes. Another positive thing was the funny times online and the memories we will carry with us. I really liked using my imagination about an unseen museum that we helped make decisions about. Being a board member makes you feel important and I really felt part of a group even though sometimes, earlier on, some of the conversations got off to a slow start with some not participating for various reasons. I do know that life gets busy and unexpected things come your way that you have no control over. I liked the way the class was taught and I think our instructor did everything possible to include everyone in all aspects. Overall, the positives outweigh the negatives and I truly enjoyed this class and learning new things.

I really didn't like the whole group part of the class, being as it was an online course. One of the reasons people take online courses is because their schedule is too busy and they want to work at their own pace. I didn't feel like I had a lot of time to get together with my group and work. It would have been easier in a face to face class instead of an online class.

A definite positive was instructor enthusiasm and ability to keep my interest. I can say that this is one class that kept me entertained with the assignments, they were enjoyable and creative. I have gained much knowledge through this class. The instructor is a valuable asset to this program. She shows much compassion and interacted with the class better that any class that I have ever ATTENDED in person. The only negatives that I can list are the fact that group projects just don't work, whether it is in a classroom setting or online; also I had to check Blackboard numerous times throughout each day. I would rather have stuck to a distinct timeline.

The positive factors were learning new concepts about art. The negative factor was that I did not always understand the expectations of what was required and how some of the information pertained to the art course.

Question 23 **Multiple Choice**

The instructor was an effective teacher of this course content.

Strongly agree	83.333%
Agree	16.667%

APPENDIX M

FINAL ART COURSE SURVEY

Name:	Art Course Survey
Number of Attempts:	12
Instructions:	Please complete the following survey about what you have gained from this course.

Question 1 Multiple Choice

When I started this class, I knew very little about art.

Answers	Percent Answered
strongly agree	25%
agree	8.333%
somewhat agree	41.667%
disagree	16.667%
strongly disagree	8.333%
Unanswered	0%

Question 2 Multiple Choice

Before taking this class I rarely looked beyond a quick glance at an art object.

Answers	Percent Answered
strongly agree	16.667%
agree	16.667%
somewhat agree	25%
disagree	16.667%
strongly disagree	25%
Unanswered	0%

Question 3 Multiple Choice

This class has helped me to broaden my understanding of how and why art is made.

Answers	Percent Answered
strongly agree	33.333%
agree	66.667%
somewhat agree	0%
disagree	0%
strongly disagree	0%
Unanswered	0%

Question 4 Multiple Choice

I have a better understanding of different art forms and art media after taking this class.

Answers	Percent Answered
strongly agree	33.333%
agree	58.333%
somewhat agree	8.333%
disagree	0%
strongly disagree	0%
Unanswered	0%

Question 5 Multiple Choice

I will feel more comfortable looking at art in an exhibit now than when I started this class.

Answers	Percent Answered
strongly agree	41.667%
agree	41.667%
somewhat agree	16.667%
disagree	0%
strongly disagree	0%
Unanswered	0%

Question 6 Multiple Choice

After taking this class, I understand modern and abstract art better.

Answers	Percent Answered
strongly agree	41.667%
agree	41.667%
somewhat agree	16.667%
disagree	0%
strongly disagree	0%
Unanswered	0%

Question 7 Multiple Choice

After taking this class, I will pay more attention to the culture and society connected to the art I view.

Answers	Percent Answered
strongly agree	33.333%
agree	66.667%
somewhat agree	0%
disagree	0%
strongly disagree	0%

Unanswered	0%

Question 8 Multiple Choice

After taking this class I will be more likely to pay more attention to art objects and artworks.

Answers	Percent Answered
strongly agree	41.667%
agree	58.333%
somewhat agree	0%
disagree	0%
strongly disagree	0%
Unanswered	0%

Question 9 Multiple Choice

After taking this class, I will be more likely to visit art exhibitions and museums than I would have before taking this class.

Answers	Percent Answered
strongly agree	33.333%
agree	25%
somewhat agree	33.333%
disagree	8.333%
strongly disagree	0%
Unanswered	0%

Question 10 Multiple Choice

Overall my appreciation for visual art has grown while taking this class.

Answers	Percent Answered
strongly agree	41.667%
agree	41.667%
somewhat agree	16.667%
disagree	0%
strongly disagree	0%
Unanswered	0%

Question 11 Multiple Choice

After taking this class, I will look beyond the surface to think about social, political, or historical connections involving the context and the artist's intent.

Answers	Percent Answered
strongly agree	33.333%

agree	41.667%
somewhat agree	16.667%
disagree	8.333%
strongly disagree	0%
Unanswered	0%

Question 12 Multiple Choice

After taking this class, I will have more respect for what an artist is trying to say whether or not I really like the artwork or not.

Answers	Percent Answered
strongly agree	41.667%
agree	50%
somewhat agree	8.333%
disagree	0%
strongly disagree	0%
Unanswered	0%

APPENDIX N

MPA GROUP SOLUTIONS

Major Problem Assignment: Group 1

Proposal:

Founded in 1902, the Museum of Art in Durant, Oklahoma had humble beginnings. Acting as a storage facility for several artists around the city because the closest museum was two-hundred and fifty miles from our small town, it was during a time of change within the community that our citizens decided that they wanted to have their own museum in order to help unite the community. The members of our small community new very little about the building and creating of a museum of art and so extensive research and planning was put into the development of what would become the heart of our community. While this small museum only maintains one permanent collection of forty Native American artworks and twenty miscellaneous paintings by relatively unknown artists it is a museum it is a place of passion for our community.

Our museum has been given with a large monetary gift it is time to expand. With this proposal for ten new art works, I believe that we can add culture and diversity to our museum as we strive to maintain the excellence and high standards of our community. Not only would this purchase benefit our museum by expanding our education abilities, it would expose the public to the diversity and richness of the North American contemporary art. This exposure will bring in more people, membership, and the sponsors that are needed in order to run a well-organized museum. It will allow us to bring more life and wonder into the heart of our community.

Contemporary North American art is an excellent way to expose and connect individuals to the roots of their past through these proposed paintings and color brush strokes. I am referring to (insert titles of paintings and authors). These paintings are rich with diversity and history that can only add to the museum, community, culture, and environment.

Philosophy:

To provide a well-curated collection of artwork, to be used in education and in documenting the past and present as we recognize our fiduciary responsibility to care for, and to preserve collections for the benefit of future generations of scholars, students, and the public, and understand its vital importance to our community. We are increasing our North American artwork and our focus on Native American artwork, giving us a rich history through the works we display.

This goal will be achieved by expanding our holdings, adding a new wing to house our new collections of artwork, and to bring in various rotating collections. Expansion of our museums ability to provide better education opportunities will be done by providing a well-cataloged gallery for referencing. We are working to build the membership of our museum while within our available resources; we are undertaking the active program of exhibition and related forms of interpretation, including publications such as newsletters and use of the internet for public research.

Goals:

- To provide a well-curated collection of artwork to be used in education and in documenting our past and our present.
- To increase membership
- To have a complete and active catalog of art work for reference
- To expand our North American Art holdings
- To build a wing providing for art holding expansion
- To better create education opportunities about North American Art
- To preserve objects authenticity
- To update technology in order to create a more viable environment for visitors
- Establish Newsletters
- To create a well-informed webpage

Vision:

Our vision is to be an interactive and culturally rich contemporary North American art museum. Our cultural diversity should be one that should educate and draw visitors. It should be an enjoyable, multi-faceted experience that allows people to come and sink deep within North American history, but also leave memory of a memorable visit. We will have our own webpage so that the public will be able to interact with us with our new technology in order to discover the local shows and special information. We are a place where people can come and look at arts past in order to see glimpse its future.

Selected Artworks:

Divers, Lorraine Coakley Black, date unknown, watercolor, 16.5" x 20".

Creating her works in watercolor, acrylic and oil, she applies brushstrokes of layered colors to achieve her vision on paper and panel. Loren shows her concern for the loss of our world's waterways diversity and lets her emotion and passion for our world take guide her artwork. In 1989, Lorraine was selected by jury to participate in the Welland Festival of Art, completing a 23-foot high outdoor mural. A highly respected artist and art instructor since 1990, she has taught for Niagara College, watercolor workshops and private individuals.
Loren Black is great watercolor artist whose ability to convey emotion and though in her artwork would be a wonderful addition to our museum giving us a bit of diversity and color to our museum. A great North American artist it would help draw people to our art museum.

A Cloudy Day on the Hill, Vincent D'Alessio, Oil on Canvas, 18"h x 24"w

A charming mixture of several impressionist movements D'Alessio never received any formal training. While he was tutored by a group of New York, painters called the *Street Painters*. These artists are largely influenced by the Ashcan school, and most of them had been painting for thirty to forty years or more. His early work is much influenced by some of the Barbizon painters and Impressionists, especially Monet and Sisley, as well as by Van Gogh. His work eventually evolved though he continues to paint mostly landscapes and cityscapes.

Not only has he captured the history and the regality of the impressionism art he has put his own twist in it, his own piece of soul. This would be a good piece for the museum to buy in order to help bring awareness to our modern impressionists.

Boatyard, Maurice Logan**,** Watercolor, 22" x 30"

Maurice Logan was raised in Northern California and studied at Mark Hopkins Institute of Art. He began to receive attention around 1915 and by the mid1920s, was one of San Francisco's best-known commercial illustrators and poster designers. During this era, he produced colorful expressionist oil paintings and exhibited them as a member of a group known as the Society of Six. He also juried art exhibitions at the Oakland Art Museum and was a member of the Bohemian Club, where he showed his paintings on a regular basis. In the 1930s, he began exhibiting his transparent watercolor paintings and helped to form the Thirteen Watercolorists group.

Logon was an influential professor at California College of Arts and Crafts and with all of his work comes the rich history of the California watercolor movement. This artwork would be a wonderful addition to our museum bringing a bit of rich history with it. It would add to the education of the artwork that has long past in order to help us understand how we achieved our own artwork today.

Cathedral, Jackson Pollock, Enamel and aluminum paint, 71 1/2 x 35 1/16 inches

Born in 1912 Jackson Pollock Jackson Pollock is one of the most easily recognizable and well-known artists in American and North American art. Having his artwork within our Museum would allow us a piece of famous artwork that would help to draw people to our museum.

Cathedral dates from his first series of paintings of 1947–50, in which the artist perfected this drip technique that forever changed the way art was created and perceived. Likened to the facade of a Gothic cathedral by the poet and curator Frank O'Hara, *Cathedral*'s tight yet dynamic interlacing of black, white, and silver also suggest an energy made visible: Here Pollock has recorded in paint the actions that went into the work's very making.

Pollock was a brilliant painter, as show in this piece of art; he had both control and an eye for color placement. Having one of Jackson Pollock's art works would create an interest the public's eye and would attract both old members and new visitors to our Museum. This would take us one-step further in our goal to become a newer, more modern museum.

Morning Prayer, Jerome Bushyhead, 24 inches by 36 inches and is done with acrylic paints.

Bushyhead's tribe affiliation is with the Cheyenne Indians. This would be an important work because it signifies a great spirit. It also tends to be somewhat patriotic because of the American Flag that looks like it is in the shape of an eagle. It seems to be well painted and very unique.

Jerome Bushyhead was born September 13, 1929 and died April 15, 2000. He has been a professional Artist since 1970. Jerome is a nationally recognized artist for his excellent interpretation of the life of the Plains Indians with his original works starting at $5,000. In style, Bushyhead is a representational artist, even when dealing with visionary elements. At times, his work takes on a quality of super realism.

Probably the best thing about Bushyhead's works is that they are good, solid, mainstream art. He avoids the gimmicky, cliché-ridden kind of Indian art that is seen to frequently,

particularly with the current "Southwest-style" home decor. These works will endure regardless of fads and trends.

His subject matter of specialty is the Cheyenne and Plains Indians Beliefs. These include Spiritual topics and the Path of the Warrior. He has had many commitments over the years including producer and host of his own television show “Unity,” KTVY, in Oklahoma City that he had for eight years; director of the Oklahoma State Fair Indian Program; founder of the Cheyenne Nation Arts and Crafts Show and several other things.

Myths, Richard Hook. The size of this artwork is 24 inches by 36 inches.

His tribe affiliation is with the Cheyenne Indians. This would be an important work because it signifies man and women. The Creator made man and woman at the same place, but then they were separated, and the woman was put far in the north, and the man in the south.

Richard Hook was born in 1938 and trained at Reigate College of Art. After national service with 1st Bn, Queen's Royal Regiment, he became art editor of the much-praised magazine Finding Out during the 1960s. He has worked as a freelance illustrator ever since, earning an international reputation particularly for his deep knowledge of Native American material culture. Richard is married and lives in Sussex; his three children Adam, Jason, and Christa are all professionally active in various artistic disciplines.

Tipi Village, Urshel Taylor. The size of this artwork is 32 inches by 19 inches and was done with acrylic paints.

His tribe affiliation is Ute/Pima Indians. This artwork is neat because of all the colors. The artist used different colors to show that each individual tepee is different. They all look exactly the same except for the colors of them.

Urshel Taylor was born at the Phoenix Indian School on May 31, 1937 and is of Ute/Pima descent. He started to paint at the age of 14. He mostly paints Northern Traditional Dancers and other Native American images. He also does a lot of sculpture in bronze and wood, but his first choice is painting. He always tries to capture the dignity and majesty of what his people have been and what they continue to be today. Urshel Taylor is a member of the Pima Salt River Community Indian Tribe. He was Director of Cultural Affairs at the Intermountain Inter-Tribal School. Through this, he became more deeply involved with the traditional Native American dances. He danced in competition for fifteen years. The dancing proved to be an important element in his personal and professional growth. Urshel began to carve dolls representing the traditional Northern type of dancer.

Urshel says he wants his work to be so authentic that it carries an aura of "Indian" so identifiable, that when someone looks at his work they will know, without asking, that this piece was created with love and pride by an Indian. Urshel's years of study and research in historical Indian culture and crafts has served to reinforce his dedication to the authentic presentation of the American Indian. After more than thirty years in the art world, both creating and teaching, Urshel's desire to "give something back" was his motivation for opening The Owl Ear Gallery in Tucson, Arizona. As he knows only too well how difficult those early years can be for young artist, he would like to give them a little assistance by promoting their work.

Untitled, It was by Gina Gray. The size of this painting is 48 ¾ inches by 61 inches and is acrylic on canvas.

This artwork would be a good piece for the museum because to me it just sticks out. There is so much blue in the picture. It just drew me in to it. When you first look at it, it looks like a waterfall running over a cliff, but then when you actually look at it for a long period then you can see all the carved figures and lines that are used.

Gina Gray is widely respected as one of the finest print-makers in American Indian art today. Her works focus on colorful pictographic compositions. Her innovative style has earned her numerous distinctions, including a one-artist exhibit at the Wheelwright Museum (Santa Fe, NM). Her works are included in the collection of the Philbrook Museum of Art (Tulsa, OK). She was born in Pawhuska, OK. She is the Commissioner of National Indian Arts and Crafts Board, a painter and printmaker, and works with Indian youth. She is one of most respected and well-known artists in Oklahoma.

Still Life Vincent Van Gogh,19th Century-10 5/8 X 14 (27 x 35.6 cm)

Vincent Van Gogh was the oldest of six children. He profoundly influenced Expressionism. He was psychotic and ended up shooting himself in 1890. His brother, Theo, dies 6 months later on January 25th,1891. Van Gogh was very lonely and full of despair. The still Life with fruit that measured 10.5/8 X 14(27 X 35.6 cm) is all the information that was posted here. This was Oil on Canvas from the Fine Arts Museum of San Francisco. The other picture we discussed is Edward Munch's Berlin Girl-41.05 X 32.5 cm. Her hair does look lop-sided, but I guess there was just something he was able to capture in the work that showed character and an aloofness that is hard to describe.

Van Gogh captures the formalist qualities of shapes and forms in this rendering of fruit. He certainly defines the word "Masterpiece in this aesthetic work."

Berlin Girl (Woman with gray-green eyes), Edward Munch- 41.05 X 32.5 cm, 1906

In Berlin Girl, by Edward Munch, he has managed to capture a great use of proportion and shading in this portrait of "Woman with gray-green eyes." (1906). I see a woman who probably has faced the stark realities of life. Her hair is interspersed with light in just the right places. She looks like she has lived a rather harsh life, in my opinion. Her expression tells you everything you need to know and perhaps what the artist was thinking, as well. There is great use of proportion and shading captured in this work. Her hair does look lop-sided, but I guess there was just something he was able to capture in this work that showed character and an aloofness that is hard to describe.

The timeline on Edward Munch goes-1863-he was born in Norway. In 1868, his mother died of TB. In 1877, his sister dies. In 1879, he goes to college and in 1888, he leaves college to paint. In 1881, he paints his first self-portrait. In 1888, he has an Art Exhibition and continues until 1944, when he died after his 80th birthday. He left the city of Oslo with 1,000 paintings and 15,400 lithographs. His life and Van Gogh's life were similar because of so much misery and he was an Expressionist. The contrast was that he sold several art works before he died and Van Gogh only sold one.

Curator Position:

A curator is accountable for acquiring and preserving important documents and artwork for permanent display while over seeing the museum’s exhibitions and acquisitions programs. This position holds the responsibility of describing, cataloging, analyzing the exhibits, and

maintaining valuable art works or objects within the museum collections for the public. Our current curator already holds the title of *museum director*, which puts him/her directly in charge of storage, exhibition of collections, including negotiating and authorizing the purchase, sale, exchange, or loan of collections. This means that our new curator would be required to assist him/her in their duties.

It would be preferable to have a curator with a PhD in Art History with some background in Museum Education. We would like for the newest member of our team to have a strong specialty in North American Art to complement our Native American displays. He/she would be in charge of supervising the new art works, buying and purchasing pieces, as well as creating the labels and displaying the valuable information that each artwork brings to the Museum. They would be in charge of scheduling new visiting exhibitions that will complete our new goals in North American art.

If you feel that, you meet the requirements we would like to see:

- A statement of purpose expressing personal career goals in the museum field, what skills he or she hopes to acquire, and why you have chosen this museum as a career.
- A resume of relevant education and work experience
- Three letters of recommendation (academic/and or professional)
- Transcripts from all schools attended above high school level, application materials (statement, resume, transcripts, and recommendations) may be sent as either a packet or individually.

Reference Page:

http://www.bls.gov/oco/ocos065.htm - U.S. Department of Labor

http://www.mac-outpost.com/anartist/main/ArtistPortfolios.html - Accent on Niagara Artists

http://www.calart.com/Catalog.asp - Calart California & American Art

http://dallasmuseumofart.org/Dallas_Museum_of_Art/View/Collections/Contemporary/ID_010832 - Dallas Museum of Art

http://www.sumptermuseum.org/sumpter-museum-goals.html - Sumpter Municipal Museum of Art

http://www.newyorkartworld.com/gallery/dalessio.html - Vincent D' Alessio – Art

ArtNatAm. Native American Artists. (1995). Retrieved 14, November 2006.
Web site: http://www.artnatam.com/subject/eagles.html

Museum-L Archives. (1998). Retrieved 16, November 2006.
Web site: http://home.ease.lsoft.com/scripts/wa/exe?A2=ind9804B&L=MUSEUM-L&T=O&F=&S=&P=1629

First People. Paul Burke. (2002). Retrieved 13, November 2006.

Web site: http://firstpeople.us/FP-Html-Pictures/Pictures-myths-page1.html

Phoebe A. Hearst Museum. Berkeley Natural History Museums. (2006). Retrieved 16, November 2006. Web site: http://hearstmuseum.berkeley.edu

NorseGate.com
Fine Arts Museum of San Francisco
Google
Wikipedia
National Gallery of Art.com
Art.com
Thomas Kincade.com
Collectibles.com
aponreus/ussintrepid
www.southwestindian.com
www.winecountrygiftbaskets.com
www.AmericanProfile.com
MotivationalQuotes@selfgrowth.com
http://www.selfgrowth.com
rubberstamps@sugarloafproducts.com
www.oldsalem.org
www.visionforum.com
www.outdoorhistory.com
www.southernhighlands.org
Ebay.com

Major Problem Assignment: Group 2

PROPOSAL:

Imagine a family oriented place, open early and closing late, with a welcoming center, engaging exhibits, meeting rooms, grand halls and tucked-away nooks, an excellent restaurant, and a gift shop full of books and souvenirs that will forever be treasured by our guests. Having a newly formed Board of Directors and our recent acceptance of a generous endowment gift, we feel this is the ideal time and perfect opportunity to add and expand cultural diversity to our museum. Our city of Evanston, Illinois, is growing rapidly, and with that, diversity in population. We want to involve and excite people about art, and by adding new pieces to our permanent collection of Native American art, we the Board feel that could be accomplished. We propose the purchase of ten pieces, Modern and Contemporary artworks, as well as hiring a curator to oversee all aspects of our newly remodeled museum. Our new acquisitions will nationally put us on the map, making our museum a powerhouse within the artworld. With these changes, our museum will be on the map; a family-friendly place for all people, all ages and ethnicities; engaging, educational, unforgettable.

PHILOSOPHY:

Here at the Evanston Museum of Art and History, we strongly believe that our museum should boldly be guided both now, and in the future, by the ideal that art should be accessible to everyone. We strive to educate as well as stimulate the growing population and our younger generation of future artists. Our city and surrounding areas are without a doubt growing, and with these recent economic expansions, these figures will no doubt continue to rise. Our museum should appeal not only to both ends of the financial spectrum, but also to as many ethnic backgrounds as is realistically possible, enjoyed by all. By accomplishing these feats, we will be a major contributor to our town, a pillar of the community by enhancing the quality of life for all around, while increasing tourism by becoming an important landmark and city attraction.

GOALS:

Our immediate goals and those for the future as follows:

* To fuel the aspirations of young people and sustain the appreciation of all Evanstonites
* To promote artistic diversity and open minds to creativity
* To provide a variety of culturally diverse artworks to the public
* To stimulate and provoke the thoughts of our visitors
* To stay active with the community
* To attract people of all ages to our museum and expose them to art
* To provide a knowledgeable staff to assist visitors
* To never become lax in our efforts
* To never lose sight of our guests' best interest or these goals
* To always keep the interest of the museum in mind
* To provide appropriate grant writers and public relations to ensure our future
* To raise friends and inspire donors to invest in the art enterprise here

VISION:

With the birth of our city in 1836, Evanston, Illinois, is a city on Lake Michigan in Cook County, directly north of Chicago. Founded in 1906, our museum's vision is to create a family-friendly atmosphere that all citizens, not only from our area, but all over the world, may come to and enjoy learning about art and its history, while celebrating the immense beauty that can be created by our fellow humans with nothing more than their eyes, hands, and imaginations. People should always feel welcomed, and it should be a place where all enjoy spending their free time. Our museum should grow not only physically, but also creatively through new acquisitions, financial backers, and supporters within our community. For the future of our museum, we are working to explore new dimensions to our modernistic approach by showcasing the works of our past to our public. We will continue to explore the unknown pieces and further our progressive approach to expose everyone to the great works of Modernism and Contemporary art.

SELECTED ARTWORKS:

The Red Vineyard of Arles by Vincent van Gogh, 29.5 × 36.6 inches, oil on canvas, 1888

Vincent van Gogh is a world renowned expressionistic artist. A 19th-century painter, van Gogh is almost as famous for his mental instability as for his vivid paintings. His career as an artist lasted only 10 years, but he has left us with a lifetime of amazement and wonder. His influence on expressionism, fauvism and early abstraction was enormous, and can be seen in many other aspects of 20th-century art. This piece would without a doubt be a major asset to our museum. When people hear the name "van Gogh," they flock to see the demented mastermind's work. By housing such a cardinal piece is crucial to the success of our museum.

Supposedly the only piece ever sold during his life, ***The Red Vineyard of Arles*** is truly a masterpiece. The idea of this paintings is so simple, nothing really deep or profound in it - but its profoundness lies within the execution. That is what makes him so great; the way he interpreted the things he painted was so magical.

This painting can very easily be viewed from both a Marxist's and an Institutional point of view. From a Marxist's point of view, we see women, possibly slaves, working in a vineyard as a male silhouette stands in the road, overlooking as the workers slave away in the heat of day. According to the Institutionalist theory, art is very much influenced by the past, in this case, slavery. Like the Marxists, the Institutional theory is against formalism and favors art as a social phenomenon.

Houses at Chatou by Maurice de Vlaminck, 81.3 x 101.6 cm Oil on canvas, 1905

Maurice de Vlaminck was mostly self-taught except for the influence of Van Gogh and Gauguin. He later helped to establish the Fauvist movement along with Andre Derain and Henri Matisse. Beginning in 1908, de Vlaminck began painting realist landscapes in the style of Paul Cezanne.

This Expressionistic piece would make a fine addition to our museum's collection because it vividly captures the artist's feelings and thoughts, a very important part of the artistic expression. The fluid lines are full of motion and emotion, emphasizing the role of the artist's feelings in the artistic process.

Odalisque by Frederic Leighton, Oil on canvas, 1862 (size not found)

This beautiful masterpiece is one of Leighton's earlier paintings from the Victorian period. Odalisque is a word that refers to a female slave or concubine. Many of the Nineteenth century artists delighted and excelled in depicting these harem women. The flowing curve of the arms of the Odalisque is echoed by the graceful sweep of the swan's form. The delicate beauty of these two figures complement each other. Clearly, Leighton was a master of creating pleasing and harmonious compositions.

Blue and Green Music by Georgia O'Keeffe, 58.4 x 48.3 cm, oil on canvas,

Born in 1887, Georgia O'Keefe came from a family were the women were highly educated and knew at an early age that she wanted to become an artist. She is considered the first American woman artist of major stature. She is a Modernist whose focus is on abstract drawings and watercolors. She felt that "art consisted not in representation, but design, in filling a space in a beautiful way." Her artwork also represents formalism in the focus on lines, shapes and colors.

We believe an artwork by Georgia O'Keeffe would be an excellent choice for our museum because she is a very well known artist and most people truly enjoy her work. We chose this particular painting because the fluidity of the white object against the dark, bold straight lines really makes this painting jump out at the viewer. The harsh angles or the black and green triangular figures are a perfect contrast with the movement and curves of the lighter object. There is also a strong feeling of depth in the painting. The blue triangle at the top right hand corner of the piece inconspicuously allows the eye to continue around, back into the painting. The lighter colored, squiggly object in the lower left side balances the piece.

Le Gueridon by Pablo Picasso, gouache on paper

Pablo Picasso is one of the great founders of the Cubist movement. His style changed many times throughout his career, ranging from classical figures to radical abstracts. He was also an accomplished sculptor who was well known for many great artworks. We feel that ***Le Gueridon/ The Pedestal Table***, by Pablo Picasso, would be a smart purchase for our museum for a variety of reasons. First of all, anything with the name Picasso is sure to draw a crowd. This particular piece is a classic example of Picasso's most recognized style, cubism. ***Le Gueridon*** can be described in either a formalism viewpoint or contextualism viewpoint. In a formalism viewpoint, of course, the shapes, colors, and forms would be the most important aspect of the work. Notice how the colors, blue and red, yellow and brown, play off of each other. The yellow triangle at the bottom is like an entryway, enabling the eye to enter the piece through the bottom and pointing the way up through the work. In regards to contextualism, there has been much speculation and many theories about the content of this piece. Some say that it is a pedestal table with a guitar on the table top. Others believe it is a person or two people. It has even been speculated that it is a pregnant woman holding a cocktail. The fact that this artwork is so thought provoking is an important reason that we believe this is an excellent choice for our museum.

Grainstacks at the End of the Summer, Morning Effect by Claude Monet, 1890, oil on canvas

We also believe that a work by the renowned artist Claude Monet would be an inspiring addition to the museum. ***Grainstacks at the End of the Summer, Morning Effect*** is an

impressionistic painting with soft, muted colors and an almost serene feel. Unlike many artists, Monet was actually famed and celebrated long before his death in 1926.

Claude Monet was known early in life for his naturalistic views of artwork and is well known for banding together with other artists to create the Impressionistic movement in the late 1800's. Characteristics of this painting that exude impressionism art the visible in the brushstrokes, ordinary subject matter, and unusual visual angles.

*I and the Village by Marc Chagall***,** 1911, Oil on canvas, 6ft x 59 5/8 in.

This piece of work is inspired by Cubism. Marc Chagall displays not only his love for geometry in this piece, but personalizes it by using memories of a French village of Hasidic, from which he is a native. This is an abstract piece because it depicts real forms in a simplified way to give an illusion of natural, original subjects. In the painting, he demonstrates how peasants and animals live side by side and how in his culture animals were humanity's link to the universe. We feel this style would benefit our museum by showing the culturalistic side from France and how geometry, of all things, actually plays an important part in artwork. Our rural customers would relate to many of the scenes played out in this painting. Evaluating this piece from a Marxist view is quite simple; it is produced by the viewers' historical conditions.

Some/One by Do-Ho Suh, 2001, military dog tags, nickel plated copper sheets, steel, glass fiber and reinforced resin, 81 x 126 in.

Do-Ho Suh is a relatively young artist (born in 1962) and studied Oriental painting. He migrated to America to continue his studies and says that he is "divided between two worlds," which to me becomes obvious in this work. He likes to combine modern technology, nationality, and history and draws from his roots in Korea. This sculpture is a rather large piece but it evokes a sense of heroism and combines two cultures in a sense. By using American soldiers dog tags to create a coat of honor that is recognizes by emperors past in the Korean culture, it shows the ability of two cultures to mesh. This would be considered a contemporary art form and could be interpreted from a deconstructionists point of view in that it is more than a symbol because small details can convey the principals by which the artist worked.

Portrait de Marie- Louise by Emile Munier, oil on canvas, 18x21 inches

Emile Munier was an important French painter in the 19th century. This portrait is of his daughter and captures her innocence with great detail. It could be considered a Naturalism work, as it is a depiction of a realistic object in a natural setting. We feel this painting would appeal to all generations. The theory of contextualism could easily be applied to this piece, since the principal says that to understand the context in which an object is created or experienced is essential if we are to perceive it correctly. It is simply beautiful without much description. It speaks for itself.

Something by Elizabeth Murray, 2002, colored lithograph, 16x14 in.

Our final choice of artwork is *Something* by Elizabeth Murray (2002). It is a 16x14 color lithograph. She is an American painter, printmaker and draughtsman whose works use bright colors, bold lines and non-figurative shapes to evoke human emotions and characteristics. This particular piece could be interpreted from a Formalistic point of view because content is not what matters in this painting, instead it is about colors, shapes and lines. Elizabeth Murray is well known in her ability to evoke a sense of fun with her cartoon like images.

Curator Position:

Museum curators plan and oversee the arrangement, cataloguing, and exhibition of collections and, along with technicians and conservators, maintain collections. They may coordinate educational and public outreach programs, such as tours, workshops, lectures, and classes, and may work with the boards of institutions to administer plans and policies. They also may research topics or items relevant to their collections. Curators usually handle objects found in cultural, biological or historical collections, such as sculptures, textiles, and paintings. Curators are expected to participate in grant writing and fund raising to support their projects.
Some curators may have administrative and managerial responsibilities, so knowledge of business administration, public relations, marketing and fundraising are recommended. Additionally, museum curators need computer skills and the ability to work with electronic databases. Curators need to be familiar with digital imaging, scanning technology, and copyright infringement, since many are responsible for posting information on the internet. Museum curators need to design and present exhibits and, in small museums, build exhibits or restore objects.

Becoming a museum curator usually requires graduate education and related work experience. Many curators work in museums while completing their formal education to gain the hands-on experience many employers seek when hiring.

This job is attractive to many people and many applicants have the necessary training and subject knowledge, but there are only a few openings. Consequently, candidates may have to work part-time, as an intern, or even as a volunteer assistant curator or research associate after completing their formal education. Employment of curators is expected to increase 10 to 20 percent for all occupations through 2008.

Job Posting:

Full Time Curator Position: Responsible for curatorial duties & research into films as related to artists showcased in our museum. Negotiate loan agreements/requirements with museums, galleries, private collectors, etc. Authenticate/Evaluate pieces for exhibition. Assist director w/conservation, interpretation, documentation, research/ display of the collection. Work w/director, Reg. office and outside venues, implanting & arrangement of exhibit to travel to other locations/institutions. 40 Hours a week, $25/hour. MA in Art History or Cultural Sciences preferred but not mandatory, plus 2-4 yrs of exp. in position. Must have experience in restoration & acquisitions of high-value art work for high-profile contemporary and/or modern art gallery/high-level private collector; working w/high-profile collector/dealer; arranging & prep guidelines for transport of art work for traveling exhibit; knowledge of int'l art world. Please contact _____.

References

http://www.artic.edu/aic/ - Art Institute of Chicago
http://www.loggia.com/art/19th/leighton14.html - Frederic Leighton
http://www.ucalgary.ca/ejournal/archive/v8/RV.jpeg- van Gogh

Major Problem Assignment: Group 3

Proposal:

With forty-five Native American artworks and twenty paintings from relatively unknown artists, the museum is not only one of historical significance, but also one that strives to bridge the gap between past and modern culture. It should be educational, inspiring, and empowering to all those who enter. The museum should work at not simply being a place of observation, but a place where one can participate in the wonderful world of art and acquaint themselves with the philosophies and customs of the Native American people. The museum should be a welcoming place for peoples of all indigenous tribes and provide a network for exchanging ideas, opinions, and cultural information with the general public.

Philosophy:

"Our philosophies of life come from our ancestors. They taught us to live in harmony with animals, plants, the spirit world, and the world around us." -Emil Her Many Horses (Ogalala Lakota), NMAI curator, 2003

Like the National Museum of the American Indian, we feel that our museum should focus on educating the public on the living legacy of the numerous Indian tribes and their continuous contributions to the art world. No longer will the stereotypical images of Indians litter the art world. Instead a new, fresh portrayal of this culture should be exhibited to prove that these are a thriving people who are continuing to make contributions of art in a way that relates to modern times.

Goals:

- Define and focus the museum's artistic direction, accentuating the strengths of our collection and strengthening our collection to reflect our artistic objectives.
- Educate and promote art awareness through aggressive outreach to the general public, area schools and universities.
- Encompass the entire community and provide opportunities for them to study techniques and forms used by our ancestors.
- To hire a curator to support and oversee the expansion of our collection and who will work closely with board members, the president and community.
- To secure additional funding through earned income, public and private contribution and grants.
- Complete the new wing project.

Vision:

The museum will strive to become an ever-changing, living monument to the Native American culture and its descendants, and will grow toward an entity that has the ability to show how the tribes have survived into the 21st century while retaining their rich culture and history by adding groups of artworks from the five hundred Native American Tribes each year. As the museum encompasses the entire community in their fundraisers, and raises excitement regarding the new art pieces, a new awareness and appreciation will be held for the museum. Ultimately, the Board of Directors would like to see the museum become the one of choice for our community, so that our people will not migrate towards the larger cities to see art shows. The Board of Directors will be working with the local talent to encourage them to show their artwork at a special showing to

help promote our local community and the will also be working with the new Curator to bring in outside art exhibitions to our great community. The museum will become the cultural hub of our community, promoting art in all its forms and educating our citizens.

Selected Artworks:

Dan Namingha

Dreamstate #54 acrylic on canvas, 24" X 24" Work originally produced 2005

This piece helps tie the older style of Indian art with contemporary motifs and shows well the progression of Native American art. The vibrant colors are eye catching without seeming hostile and the images depicted draw you in and really make you want to understand the story behind it.

Kachina Montage Bronze edition of 6, 52" X 31" X 9" 1997-2006 Work originally produced 1997.

This piece also shows the great strides of Native American art by combining abstract sculpture to culture, which is seldom seen among the Native Americans. This piece is a great transition from the past Native American art to the modern art world of today.

Symbolism II, Bronze edition of 12, 26" X 15" X 10," Work originally produced 2002

This piece works well with the previous style, but the earthy clay tones really work to continue the theme of past-to-modern. Even though it is simpler than the other piece, the hues and the abstract form work well to draw the audience in and peak their curiosity.

Hopi Eagle Dance Lithograph, 36.75" x 27.5," 1996

This piece stands out simply for its vibrant use of colors and geometric shapes. The painting attracts public interest. The abstract design along with interesting use of fluidity and motion is very modern and the figure itself exemplifies the very essence of the Native American culture.

All of the works listed would further the museum's theme, because each piece has a story behind it. Each piece, while conveying an important history lesson, stands on it's own as an interesting and inspiring design that is sure to attract notice.

Valerie Namoki

Hopi Chess Set, 32 piece traditional clay, natural pigments, handmade cedar and pine board with turquoise inlay.

As a girl, Valerie learned the art of making the polychrome style of traditional pottery in the Hopi community of Polocca alongside her grandmother Carol Namoki. With her knowledge of traditional pottery making techniques, and the influence of her father Virgil and her uncles who were all kachina carvers, Valerie branched off into creating pottery kachinas when she was in her 20s.

Art Menchego

Red Earth, Giclee Print. Paper 36 1/8" x 28 1/8"

Art Menchego from the Santa Ana Pueblo, New Mexico is recognized as one of New Mexico's leading Native American artist.

Sharon Smythe
Harbinger of Nan Guiltsaii, Oil

Sharon Smythe is an elder of the traditional Dena'ina Indian tribe of the Kenai Peninsula and is originally from Fort Yukon, Alaska. Her given name is Daa'ahaa which means "Moving On". In 1991 she graduated from the Institute of American Indian Art with honors on the Dean's list. Sharon has received degrees in two and three dimensional art. In her words: "My work is done mostly in acrylic and oil paints and reflects my views on the world around me."

Alex Jacobs
2 Mohawks, Fabric and Paper collage on canvas

Alex Jacobs (Karoniaktahke) born 1953 on the Akwesasne Mohawk Nation (St. Regis Mohawk Ind. Res). The border between the USA & Canada was placed in the middle of our community after the American Revolution; since then NY, Ontario, Quebec & various federal agencies all vie for jurisdiction with our 3 own Tribal, Band & Nation Councils.

1975-Manitou Community College in Quebec; 1977 received AFA in Creative Writing & Sculpture from the Institute of American Indian Arts, Santa Fe; 1979 BFA from Kansas City Art Institute in Creative Writing/Sculpture. 1980-86 Worked as an Ironworker across the country while we raised our family, Cyndi, Duran, Ciera. Editor for the Mohawk Nation international journal, Akwesasne Notes, from 1972-75, 83-86, 95-96. 1986- Co-founded the community paper Indian Time and the Native Arts Journal Akwekon.

Kay Walkingstick
October 5, 1877, 2003. Gouache, charcoal and encaustic on paper, 25½ x 50½ in.
"*From where the sun now stands, I will fight no more forever."*

-- Chief Joseph's surrender to General Nelson A Miles, October 5, 1877.

This piece is significant in part because it portrays an event common to many of the tribes, the end of their way of life. When Chief Joseph surrendered to General Miles, his small band of Nez Percé Indians was exhausted and had been more than decimated in the fighting. His people were relocated to Kansas and then to Indian Territory (Oklahoma).

According to her biography at the National Museum of the American Indian, Walkingstick began in 1980 a series of diptych paintings, drawings, and prints in which a pair of juxtaposed images—one realistic and the other abstract or symbolic—represents different aspects of a subject or theme.

This piece fits our objectives in many ways. First, Walkingstick is a contemporary artist who is breaking new ground in the world of Native American art. Additionally, the art and the story behind it would serve to educate museum-goers about the atrocities of the Indian Removal. Finally, this artist's works are sure to appreciate over time.

Joe Feddersen
High Voltage Tower, 2003. Twined waxed linen basket, 8 x 6 in. Photo by Richard Nicol.

According to his biography on the National Museum of the American Indian website, Feddersen (Colville) was born in Omak, Washington, and teaches at Evergreen State College in Olympia. His work investigates signs—capitalizing on personal connections of memory interwoven in basket patterns from the Inland Plateau Region of the Columbia Basin. Feddersen's art speaks to a portrayal of the landscape in a visual language, embedded in simple

repetitive design. His interest lies in the zone where the signs tenuously dissolve into a modernist aesthetic while still maintaining direct ties to the designs of his people. This work will be a good purchase for our museum because it expresses a spiritual concept of the Columbia River Plateau people, *E-Wah'-Cha'-Nye*: "the way it has been; the way it is today and always will be." This is directly in line with the goals and vision of our museum.

Native American Art Museum Curator

Overview: Manages the permanent collection, prepares exhibitions and oversees museum staff and volunteers.

FLSA Status: Exempt

Reports to: Board of Directors, Gleny Beach, President

Essential Functions:

1. Manage all aspects if the museum's art program including painting, drawing, sculpture, photography, prints, glass and electronic media, research, exhibition development and acquisitions.
2. Curate one to two exhibitions per year featuring special artists or subjects.
3. Propose acquisitions and identify funding sources.
4. Assist the Director with traveling exhibits.
5. Provide public relations duties as needed.
6. Perform other duties as assigned

Qualifications:

1. Advanced degree in Art History. Vast general knowledge of Native American art, customs, traditions.
2. Two yeas museum experience or equivalent.
3. Excellent communication skills
4. Proficiency in historical research.
5. Ability to organize complicated projects and to multi-task
6. Ability to work closely with the Board of Directors, donors, volunteers, the public and co-workers
7. Ability to represent Native American Art Museum with integrity, and professionalism.

Working Conditions:

Work areas are inside in a climate-controlled environment. Position may require extended work hours.

Material and Equipment used:

Computer	Copier
Telephone/Fax machine	Calculator
General Office Supplies	Artwork

Physical Activities required to perform Essential Duties:

Much of the day is spent sitting standing and walking.
Speaking and hearing well are needed to communicate by telephone and in person.
Corrected vision near 20/20 and good color vision.

Good manual dexterity when reaching and handling artworks.

Reference Page:

Native Peoples website http://www.nativepeoples.com/article/articles/151/1/Dan-Namingha/Page1.html
Raymond James website http://www.raymondjames.com/art/namingha.htm
Yes Magazine website http://www.yesmagazine.org/article.asp?ID=1466
Niman Fine Art website http://sculpture.namingha.com/Pages/Gallery1/SymbolismII.html
Mojo Portfolio website http://www.mojoportfolio.com/artist_search/namingha.html
Art Collectors Program website
http://www.artcollectorsprogram.org/TheCollection/fine_art_prints/namingha.htm
Job Guide website http://jobguide.thegoodguides.com.au/jobdetails.cfm?jobid=522
Ehow website http://www.ehow.com/how_12539_become-museum-curator.html
Career Prospects website http://www.careerprospects.org/Briefs/K-O/Museum.shtml
Altamira Press website
http://www.altamirapress.com/Catalog/SingleBook.shtml?command=Search&db=%5EDB/CATALOG.db&eqSKUdatarq=0759107548
Kumeyaay,info website http://www.kumeyaay.info/about/missionstmt.html
Inuit Art website http://www.inuit-art.ca/
Marion Scott Gallery website http://www.marionscottgallery.com/exhibitions-current/Landscape/index.asp
Austdone Gallery website http://www.austdonegallery.com/
City of Philadelphia website www.phila.gov/personnnel
California Indian Basketweavers Association website www.ciba.org/vision.html
Wikipedia website www.wikipedia.org
Native Art website www.nativeart.net/artist.php
National Museum of the American Indian website
http://www.nmai.si.edu/exhibitions/continuum/subpage.cfm?subpage=gallery&slide=kay&StartRow=1&slideNum=1
Library of Congress website http://memory.loc.gov/ammem/today/oct05.html
National Museum of the American Indian website
http://www.nmai.si.edu/exhibitions/continuum/subpage.cfm?subpage=gallery&slide=joe&StartRow=5&slideNum=5
Joe Feddersen: Geometric Abstraction–The Language of the Land, an essay by Elizabeth Woody (wyampum/tygh/wasco/wishram/watlala/dine) M.P.A. Student
Portland State University, Portland, Oregon, 2003
Basic Issues in Aesthetics, Marcia Muelder Eaton, 1988.
Critizing Art: Understanding the Contemporary, Terry Barrett, 2000.
Milwaukee Art Museum website http://www.mam.org/aboutus/annualreport.htm.
Philadelphia Museum of Art website www.philamuseum.org/
The Metropolitan Museum of Art website www.metmuseum.org/

APPENDIX O

PARTICIPANT OVERVIEW

The final collaborative group for the MPA Part 2 was unarguably the most frustrating assignment for students and for the facilitator. In an effort to provide a constructivist atmosphere of group autonomy, the instructor assigned group leaders with only two charges: Start the collaboration off and be responsible to submit the final assignment. Every participant interpreted that to mean that the group leader was in charge of everything. Group leaders felt responsible to pull all the information together in one document and group members indicated in reflection journals and interviews that they thought it was the group leader's responsibility to pull it all together. Group 3's leader asked if the project was democratic or under group leadership, to which the instructor responded that it was democratic. Following that, another group 3 member (Brandy) volunteered to take on a great deal of responsibility and from that point on assumed a group leader role. The original leader provided some help and there was minimal contribution from the two remaining members.

These occurrences, in retrospect, indicate the fallacy of assuming too much. The instructor wanted to designate someone to get things started and to turn in the final submission and assumed understanding on the part of the students. Even though students were given assessment rubrics and informed that the assessment of their individual participation in groups could reduce their individual grade for the Part 2 proposal, it seemed to make little difference in students' attitudes toward their responsibility as part of the group. Despite efforts by the leader to involve members individually and to divide the tasks, the follower mentality of the remaining group members demonstrated that they thought compilation of information was the group leader's job. Group leaders assumed a leadership role and group members assumed a follower role. Each group leader's reflection journal indicated high levels of frustration and anxiety with

this behavior and discussion of loss concerning how to change it. Only two group members indicated in the end that if they could start over they would take more responsibility. The remaining group members felt they did what was asked by the group leader and did not understand what more they could do.

Portraits

Participants: Group 1

Rachel

Rachel, age 21, is a Graphic Design major, and a twin who is one of four girls. She is from a small rural town, graduated with twenty-three people, her parents live together; likes sports, computers and writing. She is in an honors fraternity and took this class because she needed an upper level course. She liked the class because it makes her think and was challenging. She compared this class to History & Theory of Design where students absorbed information and felt she was learning more in this class; however she stated that she liked FTF classes better because of the teacher-student interaction. From talk coming from other art majors who had struggled with the online part of this class, she thought it was going to be hard and she began with worries because she was not normally good with online classes. She communicated that it helped because she knew the instructor and had taken classes previously from this instructor.

Rachel seemed to be a very dedicated student who wanted everything to be right. She worked hard in every class, was always prepared, and did not wait until last minute; in fact she became very stressed and nervous, almost panicked, when things fell to the last minute. She was very congenial and talkative, eager to share, sensitive to others, yet seemed able to be very open and honest about her opinions and fears. After the first discussion, she called another participant,

Nicole, to ask about a question she had. When asked why she selected that student, she responded that it was because Nicole's comments impressed her; how she seemed to be interested and even excited about looking into the information and seeking more. She added, "She goes about learning like I do—helps me to understand" (personal communication, November 7, 2006). They became friends and class partners; they phoned one another and talked often about the assignments. Rachel was a bright and enthusiastic student and she recognized similar attributes in Nicole. They seemed to have a good partner learning relationship, bouncing ideas and solutions back and forth together.

Rachel was a leader and able to scaffold others in a group. In the virtual classroom, when Becky expressed discomfort in critical thinking and problem-solving and in stating and justifying an opinion, Rachel responded:

> When I sit down with an assignment I sit down and read what your [sic] wanting us to discover or understand several times before I even look at the artwork or the other information that you have provided us with. Then I will try to figure out what your [sic] asking (from the text or other documents) and then I will look at any artwork you have given us. I find that if I understand what is being asked and what the possibilities are before I look at any art i [sic] have a much easier time understanding my own answers. (personal communication, September 30, 2006)

She was focused and motivated to problem-solve and applied many of the critical thinking attributes as listed by Paul et al (2006).

Rachel was the group leader for Group 1. She took this responsibility more seriously than intended by the instructor, as directions for group leaders was that their only extra responsibility was to begin the group discussion in the discussion forum and to turn in the final group proposal. Rachel was a very organized planner and approached the individual Part 1 of the Major Assignment Project very logically. She decided to focus on American artworks

because her art history class focused on European works. Her journal progressed regularly with research notes very regularly. When Part 1 was due, she wrote:

> It feels like it has been a while since I have sat down in order to work on this project. [only four days] I have been working on the actual individual project part of this assignment for the better pa[r]t of the day because it is due today and I am not completely finished with the homework assignment yet. . . . This is going to be a challenging project for me, I can tell, not just because of the amount of work that is going to go into this project but also because of the time constraints that my other classes are putting on me in order to get this finished. Today, for example, I realized that the project was due and I was really only around halfway finished with the project itself *and* I have been neglecting my reflection journal. I am torn between deciding this is really more of me cataloging my thoughts type journal than a actual, keep track of each step journal, or not. (personal communication, November 17, 2006)

Later that day, Rachel came to the instructor's office, very distraught concerning pressures of priorities in her classes. The instructor reassured Rachel that she understood and granted a time extension until Monday to complete the assignment. She recognized her tendency to panic and tried to get started early in every assignment. When Part 2 of the assignment neared the due date, she said of her twin sister, "I am also very thankful for [_____]'s English degree as she has helped me fine comb the information in order to make sure I am not blabbering on endlessly about the less important things for this proposal report" (personal communication, November 7, 2006). Even though she stressed out, Rachel made good use of her resources in her efforts to do the best she could.

Mandy

Mandy was a nurturing kind of individual and was optimistic and enthusiastic about the class throughout the semester. She was a non-traditional student, 50 yrs. old and returning to school after thirty years following raising a family. She cared for a homebound adult son and was the major support for a mother in a rest home. She expressed a love for learning and for the art subject area but had no firm plans for a career. Getting the degree was her immediate goal.

Her children encouraged her and she will be the first in her family to get a college degree. She liked to read and write, published in local and regional publications, and enjoyed painting and working in crafts (personal communication, October 31, 2006).

Mandy was nearly always the first responder to anything posted from the instructor or other students. She was excited to learn anything new and usually went beyond what was asked, sometimes trailing off of the subject, but taking ideas from everywhere in her Individual MPA.

The second interview with Mandy revealed her frustration at other students for their seeming absence and slowness to respond. She stated, "I made contact right away. I thought we needed to get started as soon as possible. I was very anxious to get started and wondered where everyone was" (personal communication, December 10, 2006)). Mandy internalized the MPA as a real-life problem. Her reflection journal revealed research in every direction: local and state newspapers, magazines, National Endowment for the Arts Website, National Gallery of Art and other museum Websites, a myriad of art Websites, and personal art history books. She made reflection journal entries every day without fail. She obviously thought about of this problem assignment throughout her daily activities. However, Mandy was not able to put the problem into a setting larger than where she lived: a town of 25,000 with a surrounding area of approximately 5,000 people. The problem described the museum in a city of 75,000 with surrounding population. The instructor selected this population as an attempt to move thinking from a small-town mentality, which was the background of most of the students in the area. Mandy got side-tracked from the objectives of the MPA and discussed in detail ways to raise funds or organize events for funding for the museum in the problem. The first half of her journal reflects many ideas that were excellent for the manager of a museum gift shop but not for spending ten million dollars on artworks for a museum's permanent collection.

Mandy also had a difficult time grasping the difference between prints and original works. She e-mailed the instructor, attaching the first two weeks of her reflection journal, asking if she was on the right track. The instructor explained that though museums have gift shops with prints of artworks, they do collect only original works for exhibition and that Institutionalist viewpoint and the established art world was central to the objective of the MPA that was centered in the art museum and collecting of important artwork. Her reflection journal reveals that she considered nearly everything fine art. Her reflection journal focused on specific artworks she located on the internet ranging from $100-$400, demonstrating that she did not grasp the concept of spending $10,000,000 for artworks.

Though naïve, Mandy's enthusiasm and diligence were commendable and her participation in this study offers insights to the reception of art and to the exploration of the effects of constructivist pedagogy.

Becky

Becky, age 25, tried college for a year-and-a half and did not do well. Both her mother and dad are university professors. She waited three-and-a-half years before coming to this university where she changed her major from Computer Science to Chemistry. She did not need the class for requirements; she took it out of interest. In high school, she took classes similar to art appreciation but she wanted something different in a college art class. Her mother said it might be a hard class for taking this soon after getting back in college and Becky had heard that the instructor was hard and graded strictly. When asked why she took the course anyway she responded "I wanted to prove my mom wrong" (personal communication, November 14, 2006). This was very interesting for a student who had not done well right out of high school and may have indicated a new resolve and maturity.

Becky was pleasant, seemed quiet but not shy, straight-forward but not nervous. She took art in high school because she liked the teacher who was:

> bubbly—greatest person ever—she kept interest—every time you turned in an assignment, she graded on how well you did rather than how it looked. She graded on trying hard and how you progressed. I liked that. At first the art history part was boring but because she made it interesting I liked it. (personal communication, November 14, 2006)

This statement attests to the importance of rapport between instructor and students. From her talk about the best teacher she had, the instructor realized that the instructor was a crucial element for her enjoyment and sustained interest. Her grades were a little low compared to others, but she had a bad start in college and recent higher grades were building a higher grade point average. She seemed motivated to learn and serious. She expressed that she had a scientific kind of mind but liked art.

Participants: Group 2

Nicole

Nicole, age 23, earned an Associate Degree in General Studies at a junior college and then came to this university from a small rural town, undecided about her major. After taking a ceramics and a digital photography course, she decided to major in graphic design. When asked why she took the class she said she did not know a lot about the subject, thought it would be interesting and she needed an upper level art elective to graduate. She will graduate in summer 2007 and has taken 18 hours each of the last two semesters to finish, planning then to go to a fashion design school in New York City. She had aspirations of going to law school after that, saying settling disputes fascinated her. Her parents are separated and she communicated that she is closer to her dad. Nicole always liked art but had no art in high school; she loved reading, music. She felt she found a joy in art classes at this university and loved her time here. .

Stating that though the class stressed her a little in trying to make sure the assignments were correct, she said she liked the class because "there's not really a right or wrong answer" (personal communication, November 7, 2006). This comment as well as Becky's comments about not being used to be the one doing the explaining illustrates a condition observed repeatedly by the instructor in teaching this course over the last few years. Students have been conditioned by our educational system to look at teachers as the experts and expect answers to be right or wrong. Because this class is a study about how people come to value art and talk about art, previous students have also worried whether their responses are right or wrong. Even successful students worried about answering to please an instructor.

Nicole knew the instructor as an advisor who recommended that she enroll in this course. She was really concerned about grades and recognized that she was an over-achiever but loved learning. She was a scholarship recipient; therefore grades were crucial to her support for college. Nicole, very thorough and motivated to learn, stated she liked to get things done immediately rather than wait. She communicated repeatedly that she was very excited about the course content and liked researching and discussion.

Nicole took one previous online course and she said she liked online because she could set her own pace, but she also enjoyed being FTF with the instructor because of the personal interaction. She established a strong rapport with the instructor and visited often concerning course content or assignments. When asked in Interview 1 what she would do if she was not able to physically meet with the instructor, she responded that she would have e-mailed and possibly phoned when she needed help or clarification. Nicole exhibited a positive self-confidence and love of learning. She was willing to approach instructors in her classes for help or just to discuss the topic, a strong indicator that she was a confident learner.

When designated leader of Group 2, Nicole took the role very seriously and, like Rachel, took on more than was actually intended. She diligently tried to distribute tasks and organize her group for meetings in the discussion board (asynchronous) and virtual classroom (synchronous) of Blackboard©, phoned and e-mailed group members, and arranged a FTF meeting of group members. The research, study, and final individual proposal she did for Part 1 of the MPA was beyond the imagination and expectations of the instructor.

Connie

As a Registered Nurse, Connie combined her love of nursing and school by teaching practical nursing at a vocational technical school. Married for 16 years with two daughters, ages 15 and 10, she wanted to get a degree in order to advance in her teaching position. Her whole family was a student at one level or another: Connie, at age 36, was working on a general studies degree while her husband also pursued an education degree this semester. She took the class because she needed an upper level elective and the online format fit her working schedule.

In her first Interview, she answered her first impressions of this class in light of the instructor—not the class—as an " instructor who actively motivates that class [is] not just to learn but to apply the knowledge we obtained. It [the class] is very informative and for an internet class, I have felt very involved in what was going on" (personal communication, November 20, 2006). She had no art background before this class but her effort in early assignments identified her early as a potential participant. Though she was asked to participate in the study with the other prospective subjects, she did not reply or turn in any assignments from the end of October until November 9 when she made an appointment to see the instructor. Connie shared in depth with the instructor the nature of a family tragedy resulting in numerous absences during a time of psychological trauma. The instructor assessed her as a very motivated

caring person, mom, and student. She wanted to participate in the study and thought she could catch up to complete Part 1 of the MPA. She began work immediately and submitted the assignment before the beginning of group interaction, so she joined her group ready to participate. When asked what her first impressions were of the MPA, she shared that she had thought, "There is absolutely no way I can do this. I will close it out and wait a few days" (personal communication, November 20, 2006). In her reflection journal she commented on the day she finished it that it was not as bad as she thought it would be.

When asked what she expected concerning the online part of this class, Connie said, "I expected it to make it easy to be perfectly honest" (November 20, 2006). She had no idea what to expect of the course content. Her main frustration in the class was the lack of participation by some group members in activities, especially in the group portion of the MPA. Connie took learning seriously and was the type of student who readily adapted her preferred style of learning in order to accomplish success. Reflected continually in her journal was the desire to do the best she could in class and on the final project and delight that her thinking was on track with Nicole, who she admired as more capable in the art area. She described herself as always being a good critical thinker but in limited areas. This class expanded her experience and subject area knowledge.

Morgan

Morgan was an art major, age 22. She described hometown as a "little bitty" town. In high school she made As and Bs, was a cheerleader, and played softball. After high school graduation, she attended another college until the spring 2003 semester when she transferred to this university. Her little girl was born following that semester when she also married. She had a baby boy early in this semester. She indicated in the first interview that she liked hands-on

classes but was apprehensive of taking “art-history-type classes” (personal communication, November 9, 2006).

Morgan took this class because it was required for her major and said she was very scared because she heard that this class had a lot of reading. Morgan expressed her opinion saying,

> I heard this class had a lot of reading. I liked the reasoning aspect of it but all the theories are like a big circle—they go back and forth, never ending, never finding an answer. Some people came up with theories. Were they just normal people who got recognized because other people think totally opposite? I usually take one thing out of this theory and one out of another. (Interview 1)

In the virtual classroom (synchronous) concerning critical thinking and problem-solving early in the semester, she also expressed her opinion of art criticism saying:

> With some of our assignments I often I find my self saying, this is dumb, does it really matter? I think that a lot of art gets nick-picked to death, some of it I agree is a lot deeper and has hidden meanings and stuff but not all art is meant to be analyzed to death. (personal communication, September 30, 2006)

Previously, Morgan took two other classes with this instructor, who formed the impression that she was quiet, possibly too laid-back. She did not always get work done on time and missed some class. Instructors regularly make judgments based on actions of students. Not always do they have the opportunity to know more about obstacles and difficulties their students endure during attempts to get an education. This is not to say that students do not remain responsible for class obligations. However, knowing something about students might help instructors to avoid hasty judgments until more is known. At age 22, this student has a three-year-old child and a baby less than six-months old; she goes to school full time; she works; and she has completed 95 hours. Morgan made choices that put her in this position but she has remained in school and still has a 3.2 grade point average. Perhaps rather than laid-back, it would be truer to say she was exhausted. In her reflection journal, when the time neared to turn in the first part of the MPA she wrote:

> It's 9:49 pm but it feels like 2 in the morning. I'm tired and both kids are crying and it's down to the last wire as usual. This is when I usually give up and take a lower grade for turning in something late, rather than sit here trying to finish while having to listen to crying and yelling. I really want to give up; I don't know how much more I can take. (personal communication, November 16, 2006))

When asked in Interview about how the online element of the class hindered her, Morgan stated, "The only way was that I didn't have a set time for class. I had other classes and work during the day. My only time was at night. At that time I was ready for a mental breakdown sometimes" (personal communication, December 11, 2006).

People make choices, whether prudent or not, and suffer consequences for those actions; but Morgan's situation reflects a very real aspect of what many students experience. At all levels of education, educators will have students with similar problems to Morgan's. Facilitating learning with awareness of individual problems while maintaining a standard of intellectual vigor is the challenge of today's college classes.

Participants: Group 3

Brandy

Brandy is 20 years old but seems older. She was a junior majoring in art and also was in one other class with this instructor and seemed very quiet—almost shy. Her parents were separated and her father was restricted to a wheelchair with little use of his limbs. She grew up in a small community and from a child knew she would pursue an art career. Brandy talked about how that was not "exactly admired back home, so there is not much encouragement from that end" (personal communication, November 16, 2006). She completed cosmetology school in high school and got her license. She took this class because it was required and stated, "On my own I probably would not have chosen a critiquing class" (personal communication, November 16, 2006). She indicated she read some similar texts to our course text and "didn't find them all that interesting, and in fact I generally find all the hype surrounding art annoying" (personal

communication, November 16, 2006). When I asked her general impressions of this class she wrote:

> I was surprised with how well it went. I was dreading it, since, as I mentioned above, I didn't particularly much care for the subject, but once we began our assignments and projects, I found that it really was kind of interesting. Being able to discuss it with my peers, I think, was the saving point. Reading the material on my own, I was only exposed to my own limited experiences, and seeing things from the point of view of others was definitely an eye-opener. (personal communication, December 11, 2006)

She missed handing in some early assignments. When asked about it she said she just got busy and forgot to look at announcements. From previous impressions of a quiet and almost withdrawn student, the instructor was shocked at Brandy's candor and crude comments in discussions and in writing. She was very verbal, *very* opinionated, almost anti-art theory and repeatedly used profanity in discussions and writing. For example in the writing assignment about Keith Haring she wrote, "Keith Harring's [sic] artwork 'Religious Statement' is a total pile of horse shit. The message he tries [sic] to send is muted by the simplicity of the piece and its media" (personal communication, November 8, 2006). She had good descriptive writing skills and, although she usually held a cynical view, she did fairly well at supporting her viewpoints. She frequently included quotes from artists and poets in discussion group conversations. It was obvious she read and searched out information about art and artists. By early October, because the profanity seemed to be increasing in both writing and class discussions, the instructor decided to intervene. Also, in discussions, this type of remark caused the discussion to deteriorate rather than move toward positive learning situations. The instructor commented the following in an assignment:

> I appreciated your in-depth completion of this assignment and obviously, this work hit a nerve. However, I would ask that you refrain from profanity to get your point across--you did it well without it. The Institutionalist portion needs to be expanded as looking from that viewpoint (acceptance in the art world) would point out some facts about Haring's career, exhibitions, success, etc. (personal communication, November 10, 2006)

Upon reflection of Brandy's previous remark, remarks entered in the researcher's field notes read, "Now that I think of it, she is a bit of a Marxist!—very suspicious of authority and institutionalist points of view—I think she sees it as propagandistic! Hmmmmm" (personal communication, November 16, 2006). Brandy is a prime example of one advantage of online classes over the traditional FTF classroom. She is inhibited in the classroom and hardly noticeable, seemingly without strong opinions. When she is released from that pressure of FTF interaction, she is very communicative and can express strong opinions and information with the written word in the online environment.

BIBLIOGRAPHY

Arbaugh, J. B. (2000). Virtual classroom versus physical classroom: An exploratory comparison of class discussion patterns and student learning in an asynchronous Internet-based MBA course. *Journal of Management Education, 24*(2), 207-227

Bain, C. B. (2001). A qualitative study of the effectiveness of the digitalfolio as a learning strategy in a college digital art classroom. Unpublished doctoral dissertation, University of Georgia, Athens, Georgia.

Barkan, M. (1962). Transition in art education: Changing conceptions of curriculum content and teaching. *Art Education,15*(7), 12-27.

Barone, T. & Eisner, E. (1988). Arts-based educational research. In Richard M. Jaeger (Ed.). (Section II p 71-99). *Complementary methods for research in education.* Washington, DC: American Education Research Association.

Barrett, T. (2000). *Criticizing art: Understanding the contemporary*. Boston: McGraw Hill.

Barrows, H. S., & Tamblyn, R.M. (1980). *Problem-Based Learning: An Approach to Medical Education*. New York: Springer Publishing Company.

Barrows, H. S. (1986). A taxonomy of problem-based learning methods. *Medical Education, 20,* 481-486.

Bates, A. W., (2000). *Managing Technological Change.* San Francisco: Jossey-Bass.

Beane, J. (1995, April). Curriculum integration and the discipline of knowledge. *Phi Delta Kappan,* 616-662.

Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1969). *Women's ways of knowing: The development of self, voice, and mind.* U.S.A.: Basic Books.

Bender, T. (2003). *Discussion-based on-line teaching to enhance student learning.* Sterling, VA: Stylus Publishing, LLC.

Berge, Z. L. (2002). Active, interactive, and reflective e-learning. *The Quarterly Review of Distance Education, 3*(2), 181-190.

Biggs, J. B. (1979). Individual differences in study processes and the quality of learning outcomes. *Higher Education, 8,* 381-394.

Biggs, J. B. (1987). *Student approaches to learning and studying*. Melbourne: Australian Council for Educational Research.

Biggs, J. B. (1989). Approaches to the enhancement of tertiary teaching. *Higher Education Research and Development, 8,* 7-25.

Biggs, J. B. (1993). What do inventories of students' learning processes really measure? A theoretical review and clarification. *British Journal of Educational Technology, 63,* 3-19.

Bloom, B., Englehart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive Domain*. New York: Longmans Green.

Bogdan, R. C., and Biklen, S. K. (1998). *Qualitative research for education: An introduction to theory and methods.* Boston: Allyn and Bacon.

Bolles, R. C. (1975). *Learning theory,* New York: Holt, Rinehart, & Winston, Inc.

Bredo, Eric. (1997). Academic learning: Perspectives, Theory, and Models. In Gary D. Phye (Ed.). Academic learning: Perspectives, theory, and models. (Chapter 1, 3-42). *Handbook of academic learning: Construction of knowledge.* San Diego: Academic Press.

Bresler, L. (2006). Toward connectedness: Aesthetically based research. *Studies in Art Education: A Journal of Issues and Research, 48*(1), 52-69.

Brooks, J. G. & Brooks, M. G. (1999). *In search of understanding: The case for constructivist classrooms.* Alexandria, VA: Association for Supervision and Curriculum Development.

Broudy, H. S. (1972). *Enlightened cherishing: An essay on aesthetic education*. Urbana: Kappa Delta Pi/University of Illinois Press.

Bruner, J. S. (1960). *The process of education.* New York: Vintage Books.

Bruner, J. S. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.

Bruner, J. (1990). *Acts of meaning*. Cambridge, Massachusetts: London: Harvard University Press.

Caine, R. N. & Caine, G. (1990, October). Understanding a brain-based approach to learning and teaching. *Educational Leadership 48*(2), 66-70.

Cano-Garcia, F. & Hughes, E. H. (2000). Learning and thinking styles: An analysis of their interrelationship and influence on academic achievement. *Educational Psychology, 20*(4), 414-430.

Chanda, J. & Basinger, AK. M. (2000). Understanding the cultural meaning of selected African Ndop statues: The use of art history constructivist inquiry methods. *Studies in Art Education: A Journal of Issues and Research in Art Education, 42*(1), 67-82.

Chanda, J. & Daniel, V. (2000). ReCognizing works of Art: The essences of contextual understanding. *Art Education: The Journal of the National Art Education Association, 53*(2), 6-11.

Chang, S. L. (2002). The effects of facilitation and experience in on-line learning on participation, cognitive restructuring, and learning achievement in a distance learning environment. Unpublished doctoral dissertation, The Florida State University, Florida.

Citera, M. (1988) Distributed teamwork: The impact of communication media on influence and decision quality, *Journal of the American Society for Information Science*, 49, (9), 792-800.

Clark, D. (1999). Getting results with distance education. *The American Journal of Distance Education, 12*(1), 38-51.

Cobb, P. (1996). Where is the mind? A coordination of sociocultural and cognitive constructivist perspectives. In C. T. Fosnot (Ed.). *Constructivism: Theory, perspectives, and practice* (Chapter 3, 34-52). New York and London: Teachers College Press.

Cohen, E. G. (1994). *Designing groupwork: Strategies for the heterogeneous classroom*. New York and London: Teachers College Press.

Confrey, J. (1990). A review of the research on student conceptions in mathematics, science, and programming. In C. B Cazden (Ed.), *Review of Research in Education, 16* (3-55).

Washington, DC: American Educational Research Association.

Constantino, T. E. (2002). Problem-based learning: A concrete approach to teaching aesthetics. *Studies in Art Education: A Journal of Issues and Research in Art Education*, *43*(3), pp. 219-231.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage Publishing.

Crawford, K., Gordon, S., Nicholas, J., & Prosser, M. (1994).Conceptions of mathematics and how it is learned: The perspectives of students entering university. *Learning and Instruction, 4*, 331-345.

Cross, K. P. (1999). What do we know about students' learning, and how do we know it? *Innovative Higher Education, 23*(4), 255-270.

Daughenbaugh, R., Ensminger, D., Frederick, L., Surry, D. (2004). Does personality type effect on-line versus in-class course satisfaction?. *Teaching, Learning, & Technology: The connected classroom.* Proceedings of the Annual Mid-South Instructional Technology Conference (7^{th}), Murfreesbory, TN, April 7-9, 2002.

Davydov, V. V. (1997). Lev Vygotsky and educational psychology. In L. S. Vygotsky. *Educational psychology* (Introduction). Boca Raton, Florida: St. Lucy Press. [published originally in 1926 in Russian].

de Jesus, H. P., de Souza, F. N., Teixeira-Dias, J. C., & Watts, M. (2005). Organising the chemistry of question-based learning: A case study. *Research in Science & Technological Education, 23*(2), 179-193.

Delisle, R. (1987). *How to use problem-based learning in the classroom.* Alexandria, VA: Association for Supervision and Curriculum Development.

Denzin, N. K., & Lincoln, Y. S. (1998). *The landscape of qualitative research*. Thousand Oaks, CA: Sage Publications, Inc.

Dewey, J. (1902). *The educational situation*. Berkley: University of California Press.

Dewey, J. (1927). *The public and its problems.* New York: Macmillan.

Dewey, J. (1933). *How we think.* Boston: D.C. Heath and Company.

Dewey, J. (1938). *Experience and education.* New York: Macmillan.

Dobrin, J. (1999). Who's teaching on-line? *ITPE News, 2*(12), 6-7.

Dochy, F., Segers, M., van den Bossche, P., Struyven, K. (2005). Students' perceptions of a problem-based learning environment. *Learning Environments Research, 8,* 41-66.

Dunlap, J. C. (2005). Problem-based learning and self-efficacy: How a capstone course prepares students for a profession. *Educational Technology Research & Development, 53*(1), 65-85.

Duong, D. V. & Reilly, K. (1995). A system of IAC neural networks as the basis for self organization in a sociological dynamical system stimulation. *Behavioral Science, 40*(4), 275-303.

Efland, A. D. (1993). Teaching and learning the arts in the future. *Council for Research in Music Education*, (117), 107-21.

Efland, A. D. (1995). The spiral and the lattice: Changes in cognitive learning theory with implications for art education. *Studies in Art Education: A Journal of Issues and Research in Art Education*, *36*(3), pp. 134-153.

Eisner, E. W. (1991). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. New York: Macmillan.

Eisner, E. W. (1993). The emergence of new paradigms for educational research. *Art Education, 46*(6). 50-55.

Eisner, E. W. (2002). *The arts and the creation of mind.* New Haven & London: Yale University Press.

Eisner, E. W. (2003). On the differences between scientific and artistic approaches to qualitative research. In E. M. Delacruze (Ed.). *Visual arts research: Educational, historical, philosophical, and psychological perspectives 29*(57), p. 5-11.

Elkind, D. (1969). Piagetian and psychometric conceptions of intelligence. *Harvard Educational Review, 39*, 319-37.

Erikson, M. (2005). Teaching for transfer through integrated on-line and traditional art instruction. *Studies in Art Education: A Journal of Issues and Research in Art Education*, 46(2), pp. 170-185.

Erikson, M. (2005a). *Who cares for art? A national treasure by Luis Jiménez.* Available at http://mati.eas.asu.edu/NAEA.

Farmer, E. R. (1974). The development of sensuous aesthetic perception for affective learning. Unpublished doctoral dissertation, The Pennsylvania State University, Pennsylvania.

Favre, J. A. (1981). Aesthetic experience: As a perceptual process and theory of learning in art. Unpublished doctoral dissertation, Texas Tech University, Texas.

Feldman, E. B. (1967). *Art as image and idea*. Englewood-Cliffs, NJ: Prentice Hall.

Feldman, E. B. (1970). *Becoming human through art.* Englewood-Cliffs, NJ: Prentice Hall.

Feldman, K. A. & Newcomb, T. M. (1969). *The impact of college on students*. San Francisco:

Fosnot, C. T. (Ed.) (1996). Preface. *Constructivism: Theory, perspectives, and practice.* New York and London: Teachers College, Columbia University: Jossey-Bass.

Freedman, K. (1989). Microcomputers and the dynamics of image making and social life in three art classrooms. *Journal of Research on Computing in Education, 21*(3), 290-298.

Freedman, K. and Relan, A. (1992). Computer graphics, artistic production, and social processes. *Studies in Art Education: A Journal of Issues and Research in Art Education, 33*(2), pp. 98-109.

Freedman K. and Wood, J. (1999). Reconsidering critical response: Student judgments of purpose, interpretation, and relationships in visual culture. *Studies in Art Education: A Journal of Issues and Research in Art Education, 40*(2), pp. 128-142.

Freedman, K. (2003). *Teaching visual culture: Curriculum, aesthetics and the social life of art*. New York and London: Teachers College Press, Columbia University.

Fuller, R. (1999). Implicit versus explicit learning. PO Box 429, Williamstown, MA: Ball-Stick-Bird Publications. Retrieved March 15, 2007, from http://www.ballstickbird.com/articles/a5_implc.html

Gagné, R. M. (1977). *The conditions of learning.* New York: Holt, Rinehart and Winston.

Gagné, E. D. (1985). *The cognitive psychology of school learning.* Boston: Little, Brown and Company.

Gall, M. D., Borg, W. R., & Gall, J. P. (1996). White Plans, N.Y.: Longman Publishers USA.

Gardner, H. (1993). *Multiple intelligences: The theory in practice.* New York: Basic Books.

Gazella, B. M., Masten, W. G., & Stacks, J. (1998). Students' stress and their learning strategies, test anxiety, and attributions. *College Student Journal*, *32*(3), 416-23.

Geahigan, G. (1998). From procedures, to principles, and beyond: Implementing critical inquiry in the classroom. . *Studies in Art Education: A Journal of Issues and Research in Art Education*, *39*(4), pp. 293-308.

Greene, M. (1995). *Releasing the imagination: Essays on education, the arts, and social change.* San Francisco: Jossey-Bass.

Greene, M. (2004). Carpe diem: The arts and school restructuring. In G. Diaz & M. B. McKenna (Eds.). *Teaching for aesthetic experience: The art of learning* (pp.17-31). New York: Peter Lang Publishing, Inc.

Gross, S. M., Monahan-Couch, L. (2006). College students, through problem-based learning, develop a summer camp menu and snacks. *Journal of Nutrition Education & Behavior, 38*(4), 262-263.

Guskey, T. R. (1994). Outcome-based education and mastery learning. *The School Administrator, 51*(8), 34-37.

Gunn, C. (2001). Effective on-line teaching: How far do the frameworks go? In *Meeting at the Crossroads*. Proceedings of the annual conference of the Australian Society for Computers in Learning in Tertiary Education. (ASCILITE 2001), Melbourne, Australia, December 9-12, 2001. ED 467 940.

Halsne, A. M. (2002). On-line versus traditionally-delivered instruction: A descriptive study of learner characteristics in a community college setting. Unpublished doctoral dissertation, Loyola University, Chicago, Illinois. (ERIC NO: ED465404 Clearinghouse No: JCO20434)

Hara, N. & Kling, R. (2000). Students' distress with a Web-based distance education course. Retrieved October 28, 2006, from http://rkcsi.indiana.edu/archive/CSI/WP/wp00-01B.html

Harbeck, J. D. (2001). Community college students taking on-line courses: The student point-of-view. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

Harris, R. N., Dwyer, W. O. & Leeming, F. C. (2003). Are learning styles relevant in Web-based instruction? *Journal of Educational Computing Research, 29*(1), 13-28.

Haythornwaite, C., Kazmer, M. M., Robbins, J and Shoemaker, S. (2000). Community development among distance learners: Temporal and technological dimensions. *Journal of Computer Mediated Communication*, 6(1), 1-24.

Hiebert, J. & Carpenter, T. P. (1992). Learning and teaching with understanding. In D. A. Grouws (Ed.). (1992). Handbook of research on mathematics teaching and learning. (pp. 65-98). New York: Macmillan.

Hohn, R. L. (1995). *Classroom learning and teaching*. White Plains, N.Y.: Longman Publishers.

Hughes, M. and Daykin, N. (2002). Towards constructivism: Investigating students' perceptions and learning as a result of using an on-line environment. *Innovations in Educational and Teaching International*, *39*(3), 217-234.

Huitt, W. (1992). Problem solving and decision making: Consideration of individual differences using the Myers-Briggs Type Indicator. *Journal of Psychological Type, 24*, 33-44.

Huitt, W. (1998). Critical thinking: An overview. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved January 30, 2007 from http://chiron.valdosta.edu/whuitt/col/cogsys/critthnk.html [Revision of paper presented at the Critical Thinking Conference sponsored by Gordon College, Barnesville, GA, March, 1993.]

Husén, T. & Postlethwaite, T. N. (Eds.). (1994). *The international encyclopedia of education*. UK, USA, Japan: Elsevier Science Ltd., 3302-3344.

Inkelas, K. K., Johnson, D., Lee, Z. Daver, Z. Longerbeam, S. D., Vogt, K., Leonard, J. B. (2006). The role of living-learning programs in students' perceptions of intellectual growth at three large universities. *NASPA Journal, 43*(1), 115-143.

Jackson , M. J. & Prosser, M. (1989). Less lecturing, more learning. *Studies in Higher Education, 14*, 55-68.

Jensen, E. (1996). *Brain-based learning*. Del Mar, CA: Turning Point Publishing.

Jensen, E. (1998). *Teaching with the brain in mind*. Alexandria, VA: Association for Supervision and Curriculum Development.

Johnson, D., & Johnson, R. (1992). Encouraging thinking through constructive controversy. In N. Davidson & T. Worsham (Eds.), *Enhancing thinking through cooperative learning* (pp. 120-137). New York: Teachers College Press.

Kamberelis, G. & Dimitriadis, G. (2005). *On qualitative inquiry: Approaches to language and literacy research.* New York: Teachers College, Columbia University.

Kant, I. (1788). *The critique of practical reason.* Translated by Thomas Kingsmill Abbott. Retrieved January 5, 2006 from http://www.class.uidaho.edu/mickelsen/ texts/Kant%20-%20critique-of-practical-reaso.txt

Kearsley, G. (1994). Constructivist theory (J. Bruner) [overview]. Retrieved January 5, 2006 from http://www.gwu.edu/~tip/bruner.html (gkearsley@sprynet.com) http://home.sprynet.com/~gkearsley

Keri, G. (2002). Male and female college students? Learning styles differ: An opportunity for instructional diversification. *College Student Journal, 36*(3), 433-41.

Knight, K. H., Elfenbein, M. H., & Martin, M. B. (1997). Relationship of connected and separate knowing to the learning styles of Kolb, formal reasoning and intelligence. *Sex-Roles, 37*(5-6), 401-414.

Knowles, M. S. (1984). *The adult learner: A neglected species*. Houston: Gulf.

Kozulin, A. (1986). Vygotsky in context. Preface to Vygotsky, *Language and thought*. Cambridge, MA: MIT Press.

Kraft, M. (2006). Practicing theory. *Art Education, 59*(3), 13-19.

Kuster, D.A. (2006). Critical theory in art education: Some comparisons. *From theory to practice: Translations, 15*(1), 1-3.

Lai, A. (2002). From classrooms to chatrooms: Virtualizing art education. *Art Education: The Journal of the National Art Education Association, 59*(3), 33-39.

Lampert, N. (2006). Critical thinking dispositions as an outcome of art education. *Studies in Art Education: A Journal of Issues and Research in Art Education, 47* (3), pp. 215-228.

Lewis, L., Farris, E., Snow, K., Levin, D. (1999, December). Distance education at postsecondary education institutions. 1997-98 Institution of Education Sciences, U.S. Department of Education. Retrieved July 20, 2006 from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2000013

Lizzio, A., Wilson, K., & Simons, R. (2002). University students' perceptions of the learning environment and academic outcomes: Implications for theory and practice. *Studies in Higher Education, 27*(1), 27-52.

Marra, R. M. and Jonassen, D. H. (2001). Limitations of on-line courses for supporting constructive learning. *The Quarterly Review of Distance Education, 21*(4), pp. 303-317.

Marshall, C. & Rossman, G. B. (1999). *Designing qualitative research.* Thousand Oaks, CA: Sage Publications.

May, W. T. and Diket, R. M. (1997). Action Research. In La Pierre, S. D. and Zimmerman, E. (Eds.) (1997), *Research methods and methodologies for art education.* Reston, Virginia: The National Art Education Association.

Merriam, S. B. (1988). *Case study research in education: A qualitative approach.* San Francisco: Jossey-Bass.

Merriam, S. B. (1998). *Qualitative research and case study: Applications in education.* San Francisco: Jossey Bass Publishers.

Merriam, S. B. & Associates. (2002). *Qualitative research in practice: Examples for discussion and analysis*. San Francisco: Jossey Bass Publishers.

Merriam, S. B. & Caffarella, R. S. (1991). *Learning in adulthood: A comprehensive guide.* San Francisco: Jossey Bass Publishers.

Miles, M. B. and Huberman, A. M. (1994). *Qualitative data analysis: An expanded source book.* Thousand Oaks, CA: Sage Publications.

Miller, M.M., & Husmann, D. (1994, Spring/Summer). Student perceptions of improving success in courses offered through distance education. *Planning and Changing*, 107-116.

Moore, M. G. (1984). The individual adult learner. In Tight, M. Ed. *Adult Learning and Education.* London: Croom Helm, p. 155.

Motiwalla, L. and Tello, S. (2000). Distance learning on the internet: An exploratory study. *The Internet and Higher Education, 2*(4), 253-264.

Munro, T. (1956). Adolescence and art education. In T. Munro (Ed.), *Art Education: Its philosophy and psychology*. Indianapolis, IN: Bobbs-Merrill.

Navarro P., and Shoemaker, J. (1999). Economics in cyberspace: A comparison study. Discussion paper. University of California: Irvine Graduate School of Management, 33.

Neuhauser, C. (2002). Learning style and effectiveness of on-line and face-to-face instruction. *The American Journal of Distance Education, 16*(2), 99-113.

Nyikos, M., & Hashimoto, R. (1997). Constructivist theory applied to collaborative learning in teacher education: In search of ZPD. *The Modern Language Journal, 81*(iv), 506-517.

Oon Seng Tan. (2003). Students' experiences in problem-based learning: Three blind mice episode or educational innovation? *Innofq5ionw in Education and Teaching International, 41*(2), 169-183.

Osberg, K. M. (1997). Constructivism in practice: The case for meaning-making in the virtual world. Unpublished doctoral dissertation, University of Washington.

Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students*. San Francisco: Jossey-Bass.

Palloff, R. M., and Pratt, K. (2001). *Lessons from the cyberspace classroom: The realities of on-line teaching*. San Francisco: Jossey-Bass.

Parsons, M. J. (2000). Aesthetic development. In R. A. Smith (Ed.), (2000). *Readings in discipline-based art education: A literature of educational reform*. Reston, VA: National Art Education Association.

Patton, M. Q. (1990). *Qualitative evaluation and research methods.* Newbury Park, California: Sage Publications, Ltd.

Paul, R. P., and Elder, L. (2006). *Critical thinking: Tools for Taking Charge of Your Learning and Your Life*. Upper Saddle River, New Jersey: Pearson Prentice Hall.

Perkins, D.S. (1994). *The intelligent eye: Learning to think by looking at art.* Santa Monica, CA: The J. Paul Getty Trust.

Philbin, M., Meier, E., Huffman, S., & Boverie, P. (1995). A survey of gender and learning styles. *Sex-Roles, 32*(7-8), 485-494.

Rangachari, P. K. (2006). Promoting self-directed learning using a menu of assessment options; the investment model. *Advances in Physiology Education, 30*(1), 181-194.

Richardson, V. (1997). Constructivist teacher education: Building new understandings. Falmer Press.

Roblyer, M. D. (1999). Is choice important in distance learning? A study of student motives for taking internet-based courses at the high school and community college levels. *Journal of Research in Computing Education, 32*(1), 157-171.

Rovai, A.P. (2002). Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. *Internet and Higher Education, 5*, 319-332.

Russell, D. R. (1993). Vygotsky, Dewey, and externalism: Beyond the student/discipline dichotomy. *Journal of Advanced Composition*, 13, 173-197.

Schlosser, G., & Anderson. (1994). Distance education: Review of the literature. Washington D. C.: AECT Publications. (ERIC Document Reproduction Service No. ED382159).

Shale, D. and Garisson, D. R. (1990) Education and Communication. In D. Garrison and D. Shale (Eds.) Education at a distance: from issues to practice, 23-39. Malabar, FL: Robert E. Krieger.

Sherman, R. R., & Webb, R. B. (1990). Qualitative research in education: A focus. In R. R. Sherman & R. B. Webb (Eds.). *Qualitative research in education: Focus and methods* (pp. 2-21). New York: Falmer Press.

Short, G. (1995). Understanding domain knowledge for teaching: Higher-order thinking in pre-service art teacher specialists. *Studies in Art Education: A Journal of Issues and Research in Art Education*, *36*(3), pp. 154-169.

Simpson, M. F., Portis, S. C., Snyder, V., & Mills, L. (1995). Evolution of cognitive styles for pre-professional educators. Paper presented Mid-South Educational Research Association.

Smith, G. G., Caris, M., and Ferguson, D. (2001). Teaching over the WEB versus face to face. *Ed Media 2001 World Conference on Educational Multimedia, Hypermedia & Telecommunications Proceedings.* Association for the Advancement of Computing in Education.

Snelbecker, G. E. (1974). Learning theory, instructional theory and psycho-educational design. New York: McGraw Hill.

Sorg, J. J. (2000). A case study describing student experiences of learning in an interactive computer-mediated communication context in a distance education environment. Unpublished doctoral dissertation, Ball State University, Muncie, Indiana.

Souder, W. E. (1993). The effectiveness of traditional vs. satellite delivery in three management of technology master's degree programs. *The American Journal of Distance Education, 7*(1), 37-53.

Stake, R. E. (1995). *The art of case study research.* Thousand Oaks, CA: Sage Publications, Inc.

Stake, R. E. (1988). Case study methods on educational research: Seeking sweet water. In R. Jaeger (Ed.). *Complementary methods for research in art education* (pp. 253-273). Washington, DC: American Education Research Association.

Stankiewicz, M. A. (1992, Spring). From the aesthetics movement to the arts and crafts movement. *Studies in Art Education: A Journal of Issues and Research in Art Education, 33*(3), pp. 165-172.

Stockrocki, M. (1997). Qualitative forms of research methods. In La Pierre, S. D. and Zimmerman, E. (Eds.). (1997) *Research methods and methodologies for art education.* Reston, Virginia: The National Art Education Association.

Stout, J. S. (1995) Critical conversations about art: A description of higher-order thinking generated through the study of art criticism. *Studies in Art Education: A Journal of Issues and Research in Art Education, 36*(3), pp. 170-188.

Stout, J. S. (1999). Artists as writers: Enriching perspectives in art appreciation. *Studies in Art Education: A Journal of Issues and Research in Art Education, 40* (3), pp. 226-241.

Struyven, K., Dochy, F., & Jansens, S. (2003). Students' perceptions about new modes of assessment: A review. In M. Segers, F. Dochy, & E. Cascallar (Eds.), *Optimizing new modes of assessment: In search of qualities and standards* (pp. 171-223). Boston: Kluwer.

Sullivan, G. (1996). Critical interpretive inquiry: A qualitative study of five contemporary artists' ways of seeing. *Studies in Art Education: A Journal of Issues and Research in Art Education*, 3*7*(4), pp. 210-225.

Summerville, J. B. (2002, July/Aug). Taking ID online: Developing an online instructional design course. *Tech Trends, 46*(4). P. 29-32.

Thompson, J. M. (1999). Enhancing cognitive development in college classrooms: A review. *Journal of Instructional Psychology, 26*(1), 56-64.

Thorn, P. M., Vigilante, A. L., & Silverthorn, D. U. (2002). Active learning through students' eyes: Teaching interventions for overcoming student resistance. *FASEB Journal*, *16*(5), 34-57.

Trigwell, K. Hazel, E., & Prosser, M. (1996). Perceptions of the learning environment and approaches to learning university science at the topic level. In *Different Approaches: Theory and practice in higher education*. Proceedings, HERDSA Conference 1996, Perth, Western Australia, 8-12 July. Retrieved August 8, 2006 from http://www.herdsa.org.au/confs/1996/trigwell2.html

Trinkle, D. A. (1999, August 6). Distance education: A means to an end, no more, no less. *The Chronicle of Higher Education,* A60.

Turgeon, W. C. (1981). A Piagetian Aesthetics. (Doctoral dissertation, Saint Louis University, Missouri, 1981).

Verduin, J. R., and Clark, T. (1991). *The foundations of effective practice*. San Francisco: Jossey-Bass.

Von Glasersfeld, E. (1993). Questions and answers about radical constructivism. In K. Tobin (Ed.). *The practice of constructivism in science education.* Hove: Lawrence Erlbaum.

Von Glasersfeld, E. (1997). Amplification of a constructivist perspective. *Education, 3*(2),. 203-210.

Vygotsky, L. (1978). Mind in society: The development of higher psychological processes. Cambridge: Harvard University Press.

Wadsworth, B. J. (1996). *Piaget's theory of cognitive and affective development*. New York: Longman Publishers.

Wagner, T. (1998, March). Change as collaborative inquiry. *Phi Delta Kappan, 79*(7), 512-516.

Waits, T. and Lewis, L. (2004, April 22). Distance education at degree-granting postsecondary institutions: 2000-2001. *Education Statistics Quarterly, 5*(3). Retrieved January 3, 2006 from http://nces.ed.gov/programs/quarterly/vol_5/5_3/4_4.asp

Wang, A. Y., & Newlin, M. H. (2000). Characteristics of students who enroll and succeed in psychology Web-based courses. *Journal of Educational Psychology*, *92*(1), 137-143.

Warschauer, M. (1997). Computer-mediated collaborative learning: Theory and practice, Modern Language Journal, 8,(4), 470-481.

Wegerif, R. (March 1998). The social dimension of asynchronous learning networks. *The Journal of Asynchronous Learning Networks, 2*, in T. Bender (2003). *Discussion-based on-line teaching to enhance student learning*. Sterling, VA: Stylus Publishing, LLC.

Webb, N. (1991). Task-related verbal interaction in mathematics learning in small groups. *Journal for Research in Mathematics Education, 22*, 366-389.

Wolcott, H. C. (1990). On seeking—and rejecting—validity in qualitative research. In E. Eisner & A. Peshkin (Eds.), *Qualitative inquiry in education: The continuing debate* (pp. 121-152). New York: Teachers College Press.

Wyatt, S. (2005). Extending inquiry-based learning to include original experimentation. *The Journal of General Education, 54*(2), 83-89.

Yackel, E. (2001). Explanation, justification and argumentation in mathematics classrooms. Published in Proceedings of the Conference of the International Group for the Psychology of Mathematics Education (25th), Utrecht, The Netherlands, July 12-17, 2001). Volumes 1-4. ED 466 631.

Yin, R. K. (1989). *Case study research: Design and methods.* Newbury Park: Sage Publications.

Yunfei Du. (2004). Exploring the difference between "concrete" and abstract": Learning styles in LIS distance education, *Journal of Library & Information Services in Distance Learning, 1*(3), 51-64. http://www.haworthpress.com/web/JLISD